



CER 2020

5th Colloquium on European Research in Retailing

VNIVERSITAT [ò%] Facultat d' Economia
ED VALÈNCIA



GENERALITAT
VALENCIANA

Conselleria d'Educació,
Investigació, Cultura i Esport

JKU
JOHANNES KEPLER
UNIVERSITY LINZ

skema
BUSINESS SCHOOL

 **Universität Bremen**

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CERR 2020 Reviewers	428

The 5th Colloquium on European Research in Retailing (CERR) was held 1-2 September 2020 in a hybrid format because of travel restrictions due to COVID-19 pandemic. This edition of the Colloquium was hosted by the University of Valencia and chaired by Prof. Marta Frasset from the Marketing Department.

The overall theme of the event was Transforming Retail Channels in the Digital Era: Marketing and Operations Perspectives.

This theme encouraged researchers to reflect about the challenges for retailers to digitalise their channels and operations and continue being relevant for their customers in an omnichannel context.

The 5th Colloquium was a unique event for several reasons: the first time CERR travels outside the home universities of CERR founders, the first online CERR, the first virtual international conference run from the University of Valencia, and the biggest Colloquium in number of papers presented. Therefore, the 5th edition of CERR consolidates this platform of retail researchers.

We launched the CfP in 2019 and by the deadline in March 2020 we had received 91 papers. All the papers were revised by two blind reviewers with the final supervision of the Organising Committee. Five of the 91 papers did not fit the Colloquium topics or had not the required quality and were rejected. The remaining 86 papers were subsequently resubmitted with the improvements suggested by the reviewers.

Authors submitted the papers to one of the nine tracks of the Colloquium. The track that received the largest number of papers was Shopper Behaviour with 23 submissions, followed by Digitalisation in Retailing with 19 papers. Multi-/Omni-Channel Marketing and Operations and Retail Strategy and Management were also popular topics.

The programme for Colloquium was organised in 6 tracks and 16 parallel sessions, as follows:

- 4 parallel sessions on Shopper/Consumer Behaviour and Marketing
- 4 parallel sessions on Digitalisation in Retailing
- 3 parallel sessions on Multi-/Omni-channel marketing and operations
- 2 parallel sessions on Supply Chain management/operations/methodologies
- 2 parallel sessions on Retail Strategy and Management
- 1 parallel session on International/Global Retailing
- PLUS 1 session of Doctoral Colloquium

As a keynote speaker opening the Colloquium, we had Ms. Isabel Moscardó, Marketing Manager of Home Division of El Corte Inglés. El Corte Inglés is a leading Spanish retail chain, which is an example of brick-and-mortar based retailer that have undertaken a successful transition to omnichannel. This involved organizational restructuring, as well as a complete redesign of marketing, distribution and logistics practices and structures.

At the plenary concluding session of the Colloquium an important decision was taken. In the light of the growing interest in the Colloquium and the need to give more structure to this platform of retail researchers, it was decided to create an association.

The Association of Retail Research and Education (ARRE) will bring together researchers from Europe and beyond with an interest in retailing from marketing or operations perspectives. As well, the decision was taken to move from a biennial to an annual conference or Colloquium. The new ARRE board of directors will be formed by Christoph Teller (Johannes Kepler University, Linz, Austria), Xavier Brusset (Skema Business School Paris, France) and Marta Frasset (Universitat de València).

Several prizes were awarded at this 5th CERR. The Best Conference Paper award was for “Value co-creation between consumers and distributors: the moderating effect of relationship characteristics”, by Natalia Rubio, Nieves Villaseñor and M^aJesús Yague (Universidad Autónoma de Madrid). Two Commended Paper Awards were given, to “Drivers of Service Suppliers’ Loyalty towards Online Platforms” by Hanna Schramm-Klein (University of Siegen), Natalie David (EM Strasbourg Business School), and Oliver Roßmannek (University of Friborg) and to “Archetypes of driver configurations leading to foreign market exit – An investigation into European grocery retailing”, by David Schmid, Finn de Thomas Wagner and Dirk Morschett (University of Fribourg). The Best Doctoral Paper Award was for Laura Henkel (University of Göttingen), for her paper “Effects of pop-up stores on positive word of mouth: The role of store ephemerality and consumers’ need for uniqueness”.

Organising CERR 2020 was a challenging event because all the uncertainty due the global pandemic hitting the world since the beginning of the year. Although we all missed the opportunity to physically interact, the presentations and discussion around the topics took place in a fruitful and constructive way as has been always the case at CERR. I want to thank all the people that made this possible. Carol Gil and all the secretariat team from Adeit, Fundació Universitat Empresa, and Vicente Francés and the technical team supporting the digitalisation of the event. A big thank you to CERR Advisory Board: Christoph, Herbert, and Xavier for trusting me with organising the 5th CERR and supporting me through the organization process. The biggest thank you goes to all the authors and participants for your commitment to participate in this Colloquium.

And finally, I want to truly thank the organising team at the Marketing Department of the University of Valencia: Alejandro Mollá, Eugenia Ruiz, Gloria Berenguer, Haydeé Calderón, Irene Gil, Manuel Cuadrado, Maria Jose Miquel, and Teresa Fayos.

Marta Frasquet

Chair 5th Colloquium on European Research in Retailing

CERR is a platform for retail researchers who focus on marketing and operations.

HISTORY: The idea to establish a platform for European retail researchers who focus on marketing as well as operations was born in 2010. The founding members were Professors Xavier Brusset (SKEMA Business School, France), Herbert Kotzab (University of Bremen) and Christoph Teller (University of Surrey, UK). The first meeting took place in Paris in 2012. Thereafter, three more bi-annual events have taken place – CERR 2014 at the University of Bremen, CERR 2016 at Toulouse Business School, and CERR 2018 at the University of Surrey. Currently, the founding members represent the senior advisory board of CERR and ensure that its key values (as set out below) are reflected in each edition of the colloquium.

VISION: CERR inspires and enables a better, more effective and collegiate retail research community in Europe and beyond. In doing so, CERR further advances in rigorous research of contemporary retail phenomena that have managerial relevance.

MISSION: To establish a vibrant and supportive community of retail scholars by markedly expanding opportunities for delegates to connect and explore ideas.

VALUES: CERR is built on the following values.

- *Inclusiveness:* CERR represents a platform for researchers from all continents. It is open to senior as well as junior researchers.
- *Collegiality:* CERR promotes first and foremost collegiality and tries to create a positive and creative environment where critical discourse is encouraged.
- *Rigour:* The underpinning principle of our research is to aspire to the highest possible scientific standards.
- *Relevance and impact:* CERR reflects the view that retail research should ultimately aim to be of managerial relevance.
- *Mentorship:* CERR particularly takes into account the needs of junior delegates, such as PhD students and early career researchers. This is reflected in special sessions organized at the Colloquium.



Xavier Brusset
(SKEMA Business School Paris, France)



Herbert Kotzab
(University of Bremen, Bremen, Germany)



Christoph Teller
(Johannes Kepler University, Linz, Austria)



Marta Frasquet
(University of Valencia, Valencia, Spain)



Members of the Department of Marketing (University of Valencia)



Chair: Dr. Marta Frasquet



Dr. Gloria Berenguer



Dr. Haydeé Calderón



Dr. Manuel Cuadrado



Dr. Teresa Fayos



Dr. Irene Gil



Dr. Maria José Miquel



Dr. Alejandro Mollá



Dr. Maria Eugenia Ruiz

The members of the Scientific Committee oversee the development and execution of the Colloquium. They are senior academics from all over Europe and beyond. A big thanks to them for dedicating their time to support the ideas and mission of CERR.

- Prof. Nicole deHoratius (University of Chicago, USA)
 Prof. John Dawson (University of Edinburgh, United Kingdom)
 Prof. Jonathan Elms (Massey University, New Zealand)
 Prof. Pierre Féliès (Paris II Panthéon Assas University, France)
 Prof. John Fernie (University of St Andrews, United Kingdom)
 Prof. Irene Gil (University of Valencia, Spain)
 Prof. Susanne Hertz (Jönköping University, Sweden)
 Assoc.Prof. Christina Holweg (Vienna University of Economics and Business, Austria)
 Prof. Patricia Huddleston (Michigan State University, USA)
 Assoc Prof Aida Jebali (SKEMA Business School, France)
 Prof. Ulf Johansson (Lund University, Sweden)
 Prof Aseem Kinra (Bremen University, Germany)
 Assoc. Prof. Carlota Lorenzo (University of Castilla-La Mancha, Spain)
 Prof. Heli Marjanen (University of Turku, Finland)
 Prof. Chieko Minami (Kobe University, Japan)
 Prof. Valérie Moatti (ESCP Europe, France)
 Prof. Alejandro Mollá (University of Valencia, Spain)
 Prof. Dirk Morschett (Freiburg University, Switzerland)
 Prof. José Miguel Múgica (Public University of Navarra, Spain)
 Assoc. Prof. John Murray (Massey University, New Zealand)
 Assoc. Prof. Andrew Murphy (Massey University, New Zealand)
 Prof. Edmund O'Callaghan (Dublin Institute of Technology, Ireland)
 Assoc. Prof. Karine Picot-Coupey (University of Rennes, France)
 Prof. Anne Roggeveen (Babson College, USA)
 Prof. Manuel Sánchez (University of Almería, Spain)
 Prof. Hanna Schramm-Klein (University of Siegen, Germany)
 Prof. Leigh Sparks (University of Stirling, United Kingdom)
 Prof. Brenda Sternquist (Michigan State University, USA)
 Prof. Nil Toulouse (Lille University, France)
 Prof. Steve Wood (University of Surrey, United Kingdom)
 Prof. M.Jesus Yagüe (Autónoma University of Madrid, Spain)
 Prof. Cristina Ziliani (University of Parma, Italy)

CERR 2020 was hosted by the Department of Marketing (Faculty of Economics) of the University of Valencia. The conference venue was the Fundació Universidad-Empresa de la Universitat de València - ADEIT.

The Department of Marketing is one of the key assets of the Faculty of Economics at the University of Valencia, both in teaching and research terms. It integrates more than 50 members, 30 of which full time. The Department runs courses at undergraduate degrees such as International Business, Tourism, and at masters such as MBA and International MBA. It manages a Master in Marketing, and a PhD in Marketing, which have received the Excellence award from the Spanish Ministry of Education. The Department is strongly research oriented; the main areas of research are consumer behaviour, retailing, logistics, services marketing, and communication.

The University of Valencia has more than 500 years of history. The accumulated knowledge and talent have positioned it as one of the top Spanish Universities in international rankings.

Nowadays is a modern international university hosting around 60,000 students in three different campuses, 18 centres and 92 academic departments.

The Faculty of Economics at the University of Valencia was born in 1966. It hosts more than 8,000 students who can study in three languages: Spanish, English or Valencian. The Faculty offers 8 different undergraduate programmes and several postgraduate programs, some of which are international double degrees. Students can participate in Erasmus and International Exchange Programmes at more than 150 host institutions.



Tuesday 1 September (at Fundación Universidad-Empresa de la Universitat de València - ADEIT)

8:30-9:00. Registration at the conference venue

9:00-10:00. Plenary session. Welcome from the Organising Committee and Keynote address (Ms. Isabel Moscardó, El Corte Inglés).

10:00-10:30. Coffee break

10:30-12:00. Parallel sessions (I)

Parallel sessions (I)_A: Multi-/Omni-Channel Marketing and Operations	Parallel sessions (I)_B: International/Global Retailing	Parallel sessions (I)_C: Shopper/Consumer Behaviour and Marketing
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12:00-13:30. Parallel sessions (II)

Parallel sessions (II)_A: Digitalisation in Retailing	Parallel sessions (II)_B: Shopper/Consumer Behaviour and Marketing	Parallel sessions (II)_C: Retail Strategy and Management
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13:30-14:30. Networking lunch

14:30-16:00. Parallel sessions (III)

Parallel sessions (III)_A: Shopper/Consumer Behaviour and Marketing	Parallel sessions (III)_B: Supply Chain Management
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16:00-16:30. Coffee break

16:30-18:30. Parallel sessions (IV)

Parallel sessions (IV)_A: Multi-/Omni-Channel Marketing and Operations	Parallel sessions (IV)_B: Digitalisation in Retailing
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Wednesday 2 September (at Fundación Universidad- Empresa de la Universitat de València - ADEIT)

9:30-11:00. Parallel sessions (V)

Parallel sessions (V)_A: Multi-/Omni-Channel Marketing and Operations	Parallel sessions (V)_B: Supply Chain Management / Methodologies
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11:00-11:30. Coffee break

Parallel sessions (VI)_A: Digitalisation in Retailing	Parallel sessions (VI)_B: Retail Strategy and Management	Doctoral Colloquium
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13:00-14:30. Networking lunch

14:30-16:00. Parallel sessions (VII)

Parallel sessions (VII)_A: Shopper/Consumer Behaviour and Marketing	Parallel sessions (VII)_B: Digitalisation in Retailing
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16:00-16:45. Plenary session. Conclusions, prizes & CERR meeting

Tuesday 1 September

8:30-9:00. Registration at the conference venue

9:00-10:00. Welcome from the Organising Committee and Keynote address (Ms. Isabel Moscardó, El Corte Inglés)

10:30-12:00. Parallel sessions (I)

Parallel sessions (I)_A: Multi-/Omni-Channel Marketing and Operations

Chair: Cristina Ziliani (University of Parma)

Adoption of omni-channel retailing amongst consumers: the case of the German brand and coin collectors segment	Bastian Mrutzek, Lennart Koch, Herbert Kotzab, Daniela Leitschuh, Michael Varelmann, Işık Özge Yumurtacı Hüseyinoğlu (University of Bremen)
Omni-channel intensity and shopping value as key drivers to customer satisfaction and loyalty	Haydee Calderón, Teresa Fayos, Mitxel Cotarelo (Universitat de València)
Individualising home delivery of groceries in a sustainable way – Developing a methodological approach	Sandra Luttermann, Markus Trapp, Michael Freitag, Herbert Kotzab (University of Bremen)
Analysing competitive showrooming behaviours	Marta Frasset Deltoro, Maria-José Miquel-Romero (Universitat de València)

Parallel sessions (I)_B: International/Global Retailing

Chair: Christoph Teller (Johannes Kepler University Linz)

'Testing the water' – Aldi Süd and Costco's Chinese (prior-online) market entry	Sina Hardaker (Julius-Maximilians-University Würzburg), Ling Zhang (University of Central Arkansas)
Archetypes of driver configurations leading to foreign market exit – An investigation into European grocery retailing	David Schmid, Finn de Thomas Wagner, Dirk Morschett (University of Fribourg)
A cross-national comparison of consumers' cross-border online-shopping Intention	Anne Fota, Gerhard Wagner, Hanna Schramm-Klein (University of Siegen)
Logistics service quality from French consumers perspective: some insights on conceptualizing and measuring in e-retailing	Hoang Phuong Linh Nguyen, Odile Chanut (Jean Monnet University, University of Lyon, France)

Parallel sessions (I)_C: Shopper/Consumer Behaviour and Marketing

Chair: Carmen Maria Albrecht (University of Applied Sciences Muenster, Germany)

Brand choice phases in a virtual supermarket: an eye-tracking based analysis	Carmen Torrecilla Moreno (Universitat Politècnica de València), Enrique Bigné Alcañiz (Universitat de València), Jaime Guixeres Provinciale (Universitat Politècnica de València), Mariano Alcañiz Raya (Universitat Politècnica de València)
"They can't fool me!" Impoverished consumer's shopping behaviour for grocery products	Christina Holweg (Vienna University of Economics and Business), Verena Gruber (HEC Montreal)
Pricing and consumer decision making for premium private labels in grocery retailing	Sascha Steinmann (University of Siegen), Katharina Maria Fonferek (Free University of Berlin), Hanna Schramm-Klein (University of Siegen), Gerhard Wagner (University of Siegen)
Choice overload and consumers reactions: Results from a cognitive and unconscious perspective	Benedetta Grandi, Maria Grazia Cardinali (University of Parma)

12:00-13:30. Parallel sessions (II)

Parallel sessions (II)_A: Digitalisation in Retailing

Chair: María Fuentes (Pablo Olavide University, Sevilla, Spain)

Providing digitally-transferred conditional access-permission: benefit vs. safety-concern in unattended home delivery service	Tobias Röding, Sascha Steinmann, Anne Fota, Hanna Schramm-Klein (University of Siegen)
Why do consumers use interactive technologies in stores? A uses and gratifications approach	Hafida Boudkouss, Souad Djelassi (University of Lille)
Product affinity segmentation of multichannel grocery shoppers applying community detection	Koen Vanhoof (Hasselt University), Marta Frasquet (Universitat de València), Ivett Fuentes (Central University Las Viñas)
Digitization tools at a territory level (DTTs) for inner-city retailers in France. Empirical review and analytical typology	Anne-Sophie Clément (ESCP)

Parallel sessions (II)_B: Shopper/Consumer Behaviour and Marketing

Chair: Enrique Universitat Bigné (de València)

Online behavioral advertising: benefits and risks of data-driven digital advertising	Simone Aiolfi, Silvia Bellini (University of Parma)
You'll never shop alone! – customer-to-customer interaction at the discount store.	Cordula Cerha, Fabian Nindl (WU Vienna)
From owning to renting through rental-commerce websites	Anne Fota, Katja Wagner, Hanna Schramm-Klein (University of Siegen)
Using NLP to investigate consumers' expectations regarding food retail	Yolande Piris (University Bretagne Sud – LEGO), Anne-Cécile Gay (University Bretagne Sud Foundation)

Parallel sessions (II)_C: Retail Strategy and Management

Chair: Christina Holweg (Vienna University of Economics and Business)

An ephemeral's store atmospheric characteristics	Ghalia Boustani, Jean-françois Lemoine (Paris 1, Panthéon Sorbonne)
Hurry up! Effect of pop-up stores' ephemerality on consumers' intention to visit	Laura Henkel, Waldemar Toporowski (University of Göttingen)
Franchisor-franchisee relationship and customer data management in the Data Era	Hanene OUESLATI (Université de Haute-Alsace), Martine DEPARIS (European Business School), Saloua BENNAGHMOUCH (Université de Haute-Alsace)
Value co-creation between consumers and distributors: the moderating effect of relationship characteristics	Natalia Rubio, Nieves Villaseñor, M ^a Jesús Yague (Universidad Autónoma Madrid)

14:30-16:00. Parallel sessions (III)

Parallel sessions (III)_A: Shopper/Consumer Behaviour and Marketing

Chair: Nieves Villaseñor (Universidad Autónoma de Madrid)

Influencing factors on intentional use of conversational commerce	Katja Wagner, Hanna Schramm-Klein, Anne Fota (University of Siegen)
Rethinking the commercial space of Parisian railway stations: toward a hybrid ecosystem	Paquier Marie-Catherine (IREBS European Business School), Deparis Martine (INSEEC U Research Center),
The effect of companies' communication of data-use and handling in product presentation	El Euch Maalej Mariem (INSEEC U Research Center) Tobias Röding, Julian Schmitz, Sascha Steinmann, Hanna Schramm-Klein (University of Siegen)
Evidence structure of the emotional content in online customer reviews	Clara Koetz (Rennes School of Business) Tanja Mlinar (IESEG School of Management), Vladan Mlinar (Research Institute for Advanced Materials Design)

Parallel sessions (III)_B: Supply Chain Management

Chair: Xavier Brusset (Skema Business School)

Logistics pooling and marketing differentiation: the new sources of competitive advantage in a digitalisation context	Sophie Jeanpert, Anne Marianne Seck, Gilles Paché (Aix-Marseille University)
Operations planning for public holidays in grocery retailing	Elisabeth Obermair (Hochschule Geisenheim University), Andreas Holzapfel (Hochschule Geisenheim University), Heinrich Kuhn (Catholic University Eichstätt-Ingolstadt)
A process model for the selection of social media channels by means of information quality assessment of fashion blogs for apparel supply chains	Samaneh Beheshti-Kashi, Aseem Kinra (Universität Bremen)
Relationship Quality, Value co-Creation and Economic Satisfaction in B2B value chain.	Vicente Sales-Vivó (AIDIMME Technology Institute), Irene Gil-Saura (Universitat de València), Martina González-Gallarza (Universitat de València)

Parallel sessions (II)_C: Retail Strategy and Management

Chair: Christina Holweg (Vienna University of Economics and Business)

An ephemeral's store atmospheric characteristics	Ghalia Boustani, Jean-françois Lemoine (Paris 1, Panthéon Sorbonne) NO CAMBIAR QUE PIDIÓ EL DÍA 1
Hurry up! Effect of pop-up stores' ephemerality on consumers' intention to visit	Laura Henkel, Waldemar Toporowski (University of Göttingen)
Franchisor-franchisee relationship and customer data management in the Data Era	Hanene OUESLATI (Université de Haute-Alsace), Martine DEPARIS (European Business School), Saloua BENNAGHMOUCH (Université de Haute-Alsace)
Value co-creation between consumers and distributors: the moderating effect of relationship characteristics	Natalia Rubio, Nieves Villaseñor, M ^a Jesús Yague (Universidad Autónoma Madrid)

16:30-18:30. Parallel sessions (IV)

Parallel sessions (IV)_A: Multi-/Omni-Channel Marketing and Operations

Chair: Maria-Eugenia Ruiz (Universitat de València)

The omni-channel retailing capabilities wheel: exploring dynamic capabilities of specialist retailers in Germany	Bastian Mrutzek (University of Bremen)
Dynamic marketing capabilities as drivers in international channel integration in Latin-American firms	Paula Andrea Garcia Ortiz (Universidad de Ibagué), Haydee Calderon Garcia (Universitat de València), Teresa Fayos Gardo (Universitat de València), Nidia Roa Vivas (Universidad de Ibagué)
Understanding online channel adoption: a customer segmentation analysis	Marco Ieva (University of Parma), Marta Frassetto (Universitat de València), Cristina Ziliani (University of Parma)
The complementarity of online retailers' payment, delivery and return services	Carin Rehn Crona (Lund University)
The realities of pricing in online fashion retailing	Steve Wood (University of Surrey), Iain Watson (University of Surrey), Christoph Teller (Johannes Kepler University Linz)

Parallel sessions (IV)_B: Digitalisation in Retailing

Chair: Stephan Nertinger (FHS St.Gallen)

Drivers of Service Suppliers' Loyalty towards Online Platforms	Hanna Schramm-Klein (University of Siegen), Natalie David (EM Strasbourg Business School), Oliver Roßmannek (University of Freiburg)
A classification of pos-service-technologies	Tobias Röding (University of Siegen), Sascha Steinmann (University of Siegen), Frank Hälsig (HTW Saar), Hanna Schramm-Klein (University of Siegen)
From physical store to digital store: the role of digital terminal on customer's behavior	Aurely Lao (Lille University / Iae Lille), Mariana Vlad (Bordeaux University/ Irgo), Annabel Martin Salerno (Lille University / Iae Lille)
Towards a first conceptualization of shoppers' ambivalence to digitalization	Fabien Rogeon (La Rochelle Université), Aurélie Michaud-Trevinal (La Rochelle Université), Isabelle Collin-Lachaud (Université Lille)
Customer Engagement behaviour on social media platforms: How are SMEs fashion retailers engaging?	Tolu Ajiboye (Nottingham Trent University), Sheilagh Resnick (Nottingham Trent University), John Harvey (University of Nottingham)

Wednesday 2 September

9:30-11:00. Parallel sessions (V)

Parallel sessions (V)_A: Multi-/Omni-Channel Marketing and Operations

Chair: Marco Ieva (University of Parma)

Digital natives' buying habits across channels- Evidence from consumer diaries	Carin Rehncrona, Ola Thufvesson (Lund University)
At the source of integrated interactions across channels	Bezes, Christophe (ISTEC Business School Paris)
The impact of the introduction of the online channel in grocery consumer behavior	Alejandro Mollá-Descals, María Eugenia Ruiz-Molina, Maria Caballer-Tarazona, Cristina Pardo-Garcia, Trinidad Casasús-Estellés (Universitat de València)
The Game of Shopping: how to engage consumers to buy towards mobile apps	Francesca De Canio (University of Modena and Reggio Emilia), Maria Fuentes-Blasco (Pablo de Olavide University), Elisa Martinelli (University of Modena and Reggio Emilia)

Parallel sessions (V)_B: Supply chain management/ Methodologies

Chair: Herbert Kotzab (University of Bremen)

Scouting the future of retail (Score) - A corporate foresight based retail research methodology	Mag. Andrea Massimiani, Patrick Brandtner BA MA (Logistikum –FH Upper Austria School of Business and Management)
Revisiting Austrian retail logistics – An evaluation of promising technologies and future retail logistics practices	Kellermayr-Scheucher, Marike, Plasch, Michael, Mark Stieninger, Johannes Gasperlmaier (University of Applied Sciences Upper Austria)
Artificial intelligence in retail: applications and value creation logics	Lanlan CAO (NEOMA Business School)
The Use of Artificial Intelligence in Complaint Management	Anne Fota, Katja Wagner, Hanna Schramm-Klein (University of Siegen)

11:30-13:00. Parallel sessions (VI)

Parallel sessions (VI)_A: Digitalisation in Retailing

Chair: Koen Vanhoof (Hasselt University)

A model of usage intention for AR-based self-service technologies	Maria-Jose Castillo, Enrique Bigne (Universitat de València)
Field Observations on the Strategic Placement of Retail Robots	Laurens De Gauquier, Malaika Brengman, Kim Willems, Hoang-Long Cao, Bram Vanderborght (Vrije Universiteit Brussel)
Investigating factors that influence live-Streaming sales behavior: Trust Transfer and Para-Social Interaction Perspective	Bo Lu (Harbin Institute of Technology), Guoxin Li (Harbin Institute of Technology), Roisin Vize (TU Dublin), Etain Kidney (TU Dublin), Yufeng He (Harbin Institute of Technology)
The Role of Customer Inspiration and Customer Confusion in Online Assortment Organization	Laura Bertrandie, Stephan Zielke (University of Wuppertal)

11:30-13:00. Parallel sessions (VI)

Parallel sessions (VI)_B: Retail Strategy and Management

Chair: Maria-José Miquel (Universitat de València)

Sustainability, innovation and satisfaction: the moderating effect of gender in retailing	Antonio Marín García, Irene Gil Saura, M ^a Eugenia Ruiz Molina (Universitat de València)
Use of social networking sites by food retailers	Ellen Van Droogenbroeck (Vrije Universiteit Brussel)
Creative Concept or Watered-down Version?	Steve Burt (University of Stirling), Carys Egan-Wyer
Factors that influence how new store formats contribute to a retail portfolio	(Lund School of Economics and Management), Jens Hultman (Kristianstad University), Ulf Johansson, Alice Beckman, and Clara Michelsen (Lund School of Economics and Management)
Do Store Flyers Trigger Cross-Category Sales? The Moderating Role of Categories' Relatedness	Saeid Vafainia (ESCP Business School), Els Breugelmans (KU Meuven), Tammo Bijmolt (University of Groningen)
Customers first, are you kidding ?	Fabien Eymas, Faouzi Bensebaa (Université Paris 8)

11:30-13:00. Doctoral Colloquium

I Need You to Be Closer – The Effects of Customer-Integration in Technology-Infused Frontline Service Encounters	Tobias Röding (University of Siegen)
Effects of pop-up stores on positive word of mouth: The role of store ephemerality and consumers' need for uniqueness	Laura Henkel (University of Göttingen)

14:30-16:00. Parallel sessions (VII)

Parallel sessions (VII)_A: Shopper/Consumer Behaviour and Marketing

Chair: Benedetta Grandi (University of Parma)

Co-creation behaviour in fashion retailing sector: a latent segmentation approach	Carlota Lorenzo-Romero (University Castilla-La Mancha), Marta Frasquet (Universitat de València), Maria-Carmen Alarcón-Del Amo (University of Murcia)
Impulse buying and e-grocery: a conceptual model	Benedetta Grandi, Maria Grazia Cardinali (University of Parma)
Impulsive and compulsive purchase in the digital mobile environment	Yuchen Zhang (Complutense University Madrid), María Puellas-Gallo (Complutense University Madrid), Karine Picot-Coupey (University of Rennes1)
Does emotional labour matter in customer-service robot interactions?	Carmen-Maria Albrecht, Mathis Honekamp (University of Applied Sciences Muenster, Germany)

14:30-16:00. Parallel sessions (VII)

Parallel sessions (VII)_B: Digitalisation in Retailing

Chair: Hannah Schramm-Klein (University of Siegen)

The competitive advantage of Multi-platform-based ecosystem: the evidence from Alibaba	Jin Shi (Saitama University), Huifeng Bai (Liverpool John Moores University)
Pop-up retail and its patterns – developing a data based framework for digitizing the process according to the 3p impetus	Nertinger, Stefan (FHS St.Gallen), Frick, Klaus (NTB Buchs)
How can digitalization mitigate pandemic-induced demand shocks? A case study from the fast fashion industry	Zsolt Matyusz, (Corvinus University of Budapest), Bence Pistrui (Corvinus University of Budapest), Zsuzsa, Deli-Gray (ESSCA School of Management)
Transitioning to omni-channel in grocery retail. A dynamic capabilities approach	Ebba Eriksson, Andreas Norrman (Industrial Management and Logistics, Lund University)

16:00-16:45. Plenary session: Closing conference:

“Retail research in omnichannel context” (Marta Frasquet)

16:45-17:15: Conclusions, prizes & CERR meeting

ADOPTION OF OMNI-CHANNEL RETAILING AMONGST CONSUMERS: THE CASE OF THE GERMAN BRAND AND COIN COLLECTORS SEGMENT

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Purpose:

In this study, we examined the acceptance of omni-channel approaches amongst German consumers and wanted to gain insight into the specific factors, which drive the consumer acceptance of omni-channel retailing. There is limited literature on segmenting customers in omni-channel acceptance. Hence, the research aims to provide the factors of omni-channel acceptance of a special customer segment, namely collectors. The motivation comes from the behavioural characteristics of collectors and limited studies on customer segmentation in omni-channel research (Valentini et al., 2020). The collectors are interested in networking, sharing, consulting and researching and have brand attachment (Kessous et al., 2014; Spaid, 2018). Today, omni-channel customers have similar characteristics. Therefore, our study focuses on the acceptance of omni-channel retailing within the community of stamp and coin collectors in Germany by testing an extended technology acceptance model that incorporates innovation diffusion theory.

Design/methodology/approach:

Omni-channel retailing focuses on seamless customer experience by using the channels and touchpoints in an integrated manner (Verhoef et al., 2015; Galipoğlu et al., 2018). We follow the notions of Wu and Wang (2005) as well as Costa e Silva et al. (2018) by understanding omni-channel retailing as a kind of technology driven strategy (Brynjolfsson et al., 2013; Piotrowicz and Cuthberston, 2014; Verhoef et al., 2015; Sramek et al., 2020) and consequently applied the technology acceptance model (TAM) as developed by Venkathesh & Davis (2000) and used in omni-channel research (e.g. Park and Kim, 2020) in order to be able to measure particularities of our special consumer segment. The questionnaire was distributed amongst various online collector communities (e.g. on Facebook) as well as circulated in printed version in numismatic and philately specialty stores. Finally, we received a sample of 335 respondents out of which 228 questionnaires were usable. For the measurement model, confirmatory factor analysis with maximum likelihood was performed with AMOS. The overall fit statistics ($\chi^2/df= 3.174$, GFI= 0.843, CFI= 0.949, NNFI= 0.928, RMSEA= 0,098 and SRMR= 0,0563) indicated that the model had an acceptable fit. Structural equation modeling was used to test the research hypotheses. Reliability and validity are verified. The composite reliability of each construct exceeded the recommended level of 0.70. Convergent validity was obtained with average variance extracted (AVE) value of each construct which was above 0.5. Also, discriminant validity was examined while the correlation coefficient of the two dimensions was less than the square root of the AVE.

Findings:

Our findings provide empirical evidence for the developed conceptual model on omni-channel retailing acceptance by consumers. In particular, our data shows that the intention to use omni-channel approaches has a significant positive effect on the actual use ($b=0.70$, $p<0.01$). Likewise, we were able to identify that the usefulness of omni-channel approaches significantly affects the perceived use too ($b=0.67$, $p<0.01$). In addition to these, compatibility which shows whether or not omni-channel approaches are perceived as consistent with existing values, lifestyles or past experiences of the users significantly affects the perceived usefulness of omni-channel approaches ($b=0.59$, $p<0.01$). Contrary to this, compatibility does not have a significant effect on intention to use ($b=0.07$, $p>0.01$). This can be explained with fast and frequent advances in technology used for omni-channel approach. Therefore, from consumers' perspective compatibility is not a factor to be concerned for intention to use. When it comes to the risk of using omni-channel approaches, we identified a negative significant influence on the perceived use ($b=-0.19$, $p<0.01$). Though when it comes to costs of using omni-channel approaches and their perceived usefulness, we obtained interesting results. Contrary to other studies in the field, we were not able to show a significant influence of costs on the intention to use omni-channel approaches ($b=-0.09$, $p>0.01$). This may be due to the high level of mobile technology diffusion (e.g. tablets, laptop computers or smartphones) amongst these consumers and their high usage affinity. Consequently, the costs of using these technologies are low as well as the barriers to use omni-channel approaches. Furthermore, perceived ease of use of omni-channel approaches does not have a significant positive effect on the perceived usefulness of omni-channel approaches ($b=0.03$, $p>0.01$). This may be due to the consumers' high involvement in technology and awareness on perceived usefulness of omni-channel approaches. Lastly, perceived ease of use does not have a positive impact on intention to use ($b=-0.09$, $p>0.01$). It can be inferred that consumers are convinced to use omni-channel approach when they are perceived with its usefulness.

Originality/value:

The retailers seek ways of enhancing their knowledge on the actual use of omni-channel retailing. To our knowledge, our study is one of the first studies on the acceptance of omni-channel approaches within a particular consumer segment, namely the stamp and coin collectors branch. This study continues the research in the area of mobile commerce technology acceptance and confirms partly the existing theory saying that certain factors drive the intention to use a technology which then affects the actual use of it. Therefore, this research contributes to omni-channel literature and sheds light on the factors of a specific consumer segment. Contrary to existing knowledge, our findings show differences when it comes to the risk of technology use and its influence on the intention to use omni-channel approaches. This may be explained by the characteristics of the specific consumer group. Omni-channel acceptance is not same among the consumers. The findings provide some practical implications. The retailers should focus on special consumer segments and develop related solutions accordingly. This will increase the actual use of omni-channel retailing and consequently revenue of retailers. The features of touchpoints (e.g. mobile application, web site, social media platforms) need to enhance customer engagement and increase awareness on the intention to use and consequently usage behaviour. The features should be updated frequently in accordance with consumer dynamics.

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Keywords: Technology acceptance model, omni-channel retailing, consumer acceptance

ANALYSING COMPETITIVE SHOWROOMING BEHAVIOURS

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Introduction

Digital technologies have impacted the way consumers interact with retailers. Showrooming behaviour, i.e., using the offline channel to gather information and the online channel to purchase, is an increasingly popular practice. The increasing use of smartphones fuels the practice of showrooming, as consumers research in-store using the mobile device (Sit et al., 2018). Retailers feel threatened by showrooming, as most often the purchase is made at a competing online retailer (Gensler et al., 2017). Competitive showrooming is believed to be driven by the search for price benefits; however, Gensler et al. (2017) found that, together with price, other variables such as better quality products, lower search costs, and availability of salesperson also play a role.

The literature analysing showrooming is sparse, and has focused on explaining showrooming attitude or showrooming intentions based on variables related to individual traits, such as price sensitivity, social interaction, convenience or perceived control (Arora and Sahney, 2018; Flavián et al., 2020; Kang, 2018; Rejón-Guardia and Luna-Nevarez, 2017). There is little research on the influence of situational factors related to specific shopping experience at the store, except for the qualitative study of Sit et al. (2018), or the segmentation study of Schneider and Zielke (2020). Furthermore, the role that relational variables such as retailer loyalty can play in deterring competitive showrooming has only been explored by Schneider and Zielke (2020). Thus, there is a lack of understanding of the reasons why showroomers purchase online at a competing retailer instead of at the physical retailer visited for gathering information. By analysing not only individual traits, but also the role of situational and relational variables in competitive showrooming, we provide actionable variables for multichannel retailers to try to reduce the likelihood of customer buying online at a competing retailer.

Purpose

This paper aims to explain the practice of competitive showrooming as a result of the individual's search for value for money, situational variables affecting the in-store experience, and variables characterising the consumer-retailer relationship. Based on the main tenets of the methodology performed (fuzzy-set Qualitative Comparative Analysis - fsQCA), the aim of this research is to identify patterns of competitive showroomers as different combinations of the mentioned characteristics.

Conceptual framework

Our conceptual framework is based mainly on the literature that has attempted to explain showrooming going beyond individual characteristics, and particularly looking at variables other than the search for lower prices online (Gensler et al., 2017; Schneider and Zielke, 2020; Sit et al., 2018). We suggest that showroomers would purchase online at a competing retailer (i.e. would undertake competitive showrooming instead of loyal showrooming) when conditions such as searching for the best value for money, not having a good shopping experience at the store, or individuals with weak relational bonds with the retailer, are present.

Value consciousness is a consumer personality trait defined as “a concern for paying low prices, subject to some quality constraint” (Lichtenstein et al., 1993, p. 235). Value-conscious individuals try to be smart shoppers, sensitive not just to price but also to quality (Cho et al., 2006). They regularly carry out in-depth information processing because their main goal is to get the product of the highest quality at the lowest price (Delgado-Ballester et al., 2014). That concern results in higher shopping hesitation, delay of the purchase, and weaker loyalty intentions (Demirgünes, 2018; Zheng et al., 2017), which could result in a higher probability of competitive showrooming.

The situational variables related to the in-store experience that could most influence the decision to leave the store and purchase online at a competing retailer are perceived crowding and perceived quality of salesperson (Gensler et al., 2017). According to the theory of overstimulation (Oldham and Fried, 1987), the cognitive overload derived from a crowded environment lowers the focus, increases distraction, and hinders cognitive processing. Perceived crowding will result in cognitive, affective, and behavioural outcomes that will precipitate an earlier departure from the store (O’Guinn et al., 2015) and could lead to showrooming. However, findings are equivocal (Jones et al., 2010), and Metha et al. (2013) suggest the consideration of an inverted U-shaped relationship between perceived crowding and patronage intention; in other words, an optimal crowding level exists, which is mediated by individual as well as situational variables. On the other hand, there is plenty of literature supporting the relevance of in-store salesperson’s friendliness, interpersonal sensitivity, competence and, in general, customer service quality. Salespersons can help to reduce shopping risks, increase customer’s satisfaction, and improve return rates (Ertekin et al., 2019; Puccinelli et al., 2013; Croning et al., 2000), which could prevent competitive showrooming behavior.

Regarding relational variables, trust, satisfaction and loyalty, are considered in the literature three fundamental variables to build a strong customer-retailer relationship. Trust plays a pivotal role in building lasting exchange relationships (Morgan and Hunt, 1994). Based on the conceptualization of trust of Moorman et al. (1992), we define retailer trust as the willingness to rely on the ability of the retailer to perform its role. Trust has been correlated with loyalty in the retail context (e.g. Sirdeshmukh et al., 2002). In uncertain environments, where consumers feel vulnerable, trust would help consumers make decisions (Chaudhuri and Holbrook, 2001). Customer satisfaction represents the consumer fulfillment response to the shopping experience (Oliver, 1980). In the retail sector, satisfaction is defined as a “post-consumption evaluation of how well a store or product meets or exceeds customer expectations” (Levy and Weitz, 2009, p.111). It has been related to personal interaction quality, and loyalty (Vesel and Zabkar, 2009). Customer loyalty is a critical relational outcome in business-to-consumer relationships. Loyalty captures the strength of the relationship and is reflected in attitudinal and behavioural responses (Dick and Basu, 1994). Loyal customers tend to revisit the retailer, repurchase products, and recommend it (Zeithaml et al., 1996). Thus, it could be expected that loyal customers would be less likely to purchase online at a competing retailer.

Design/methodology/approach

We collected data via an online survey to a Spanish panel. The population were individuals who had done mobile showrooming in the last six months in the apparel or electronics category, and had interacted with a store's salesperson. After applying these criteria, we reached a valid sample of 401 showroomers. The outcome variable was operationalised as purchasing online at a retailer other than the one visited physically. 81% of the sample undertook this behaviour.

The measures of the relevant variables for our research were collected in the questionnaire through 7-point multi-item Likert scales taken from previous literature: value consciousness (Delgado-Ballester et al., 2014), perceived crowding (Mattila and Wirtz, 2008), quality of in-store salesperson (Gensler et al., 2017), and retailer trust, satisfaction and loyalty (Lee et al., 2007). We checked the psychometric properties of the scales via a confirmatory factor analysis with EQS 6.1 using the robust estimation method. All values of the relevant indicators confirmed the reliability and validity of the measures.

FsQCA was utilised to explore the data and reach our research goal. This technique analyses how causal conditions lead to a particular outcome. Two relevant characteristics of this technique are equifinality (there can be more than one path or solution to the same outcome) and causal complexity (not all the variables considered in the analysis have to be relevant jointly) (Woodside, 2016).

In order to work with fsQCA, we calculated the average of multi-item scales, and recoded the outcome variable. Additionally, we calibrated the measures to translate them into fuzzy set membership scores. We took the median value of each construct as the cross-over point for all the possible causal conditions, and considered the 10% percentile for the full non-membership, and the 90% percentile for the full-membership.

Findings

Four different causal configurations resulted as sufficient conditions for the outcome to occur. In other words, individuals can be grouped into four solutions that explain participation in competitive mobile showrooming. Together, they explained 66.5% of the competitive mobile showrooming behaviours, with an overall solution consistency of 84%, reaching the minimum thresholds required (Ragin, 2000).

According to the results:

Solution 1. Shoppers that do not trust, are not satisfied with the retailer and are not loyal to it. In this solution, no other variable is needed for competitive showrooming to occur (Consistency=0.85).

Solution 2. Consumers that are satisfied with the retailer, are loyal to it, and in the shopping situation, although they perceived high in-store salesperson quality, they also perceived high crowding (Consistency=0.78).

Solution 3. Shoppers that did not perceived high crowding in the shopping situation at the store, and perceived high in-store salesperson quality, but they are not loyal to the retailer (Consistency=0.80)

Solution 4. Individuals that are satisfied with the retailer, but they are value-conscious and did not perceive high quality of in-store salesperson when they visited the store (Consistency=0.78).

Contributions

The contribution of this paper to multichannel literature is, first, to focus on competitive showrooming, as most papers have not specifically assessed whether online purchase takes place at the visited retailer for information gathering (loyal showrooming) or at a different retailer (competitive showrooming). Second, to investigate showrooming behaviour as a function of variables related to the retailer, both referring to the in-store shopping experience and to the relational bonds with the customer. Existing literature mainly focuses on individual variables that are not under the control of the retailer, such as price consciousness. Third, by applying the fsQCA methodology, we provide results that are not based on causal relationships but suggest different patterns based on combinations of variables that lead to competitive showrooming. This may be an appropriate way to analyse complex and yet little known behaviours such as showrooming.

Practical implications

To reduce the likelihood of competitive showrooming, retailers should develop actions to build customer loyalty, trust and satisfaction. If those relational variables are not present (solutions 1 & 3), the individual will do competing mobile showrooming. Loyalty programmes, newsletters, direct and fluent communication through mass and social media, among others, could foster those relational measures. But that is not enough. Even in the situation in which some of those relational variables occur, our results revealed that the specific experience at the time of the visit to the retailer in a physical store could also be crucial for potential competitive showrooming. Perceived store crowding (solution 2) or a low quality salesperson service (solutions 4) are also related to competitive showrooming. Thus, retailers should train their salespeople to provide high quality customer service and to be able to identify customer's needs, as it will help them to better assist value conscious customers (solution 4); for those loyal customers, service quality and value will be the key factors to avoid competing showrooming. On the other hand, retailers should identify the peak hours at the physical store, in order to reduce crowding. A perception of crowding or poor attention of the salesperson will provoke competitive showrooming, even in loyal and/or satisfied customers.

Research limitations and outlook

Future research should consider additional product categories in order to generalize results, or even consider how the specific product category could condition the obtained results. Moreover, other measures that could influence competitive showrooming should be taken into consideration, such as the existence of a retailer app or the individual's dependence to the mobile device. Our research design included the situational variables of perceived crowding and quality in-store salesperson, as they are believed to be, respectively, the main deterrent and main benefit of shopping in physical stores. However, situational variables could also include promotional offers that take place at the store or at competing online retailers.

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Keywords*

Competitive showrooming, Mobile, Loyalty, Value consciousness, fsQCA

Acknowledgement

This work was financed by the Spanish Ministry of Science, Innovation and Universities, Spanish State Research Agency (Research Grant ECO 2017-83051-R).

INDIVIDUALISING HOME DELIVERY OF GROCERIES IN A SUSTAINABLE WAY – DEVELOPING A METHODOLOGICAL APPROACH

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Purpose:

E-commerce is not a specialty any longer, it is vital part of today's retailing world. In certain branches such as cloths, consumer electronics and books, internet retailing has taken serious market shares from traditional retailers, whereas within the food segment, online retailing is still small, but attractive. Besides the increasing attractiveness of e-commerce we observe also an increasing sustainability concern at consumers' level, where consumers would like to select a more sustainable delivery of their ordered goods. Our project focuses on the trade-off between the need for more sustainability and the increasing demand and requirements for home deliveries caused by e-commerce. Thus, the primary goal of our study is to develop an interdisciplinary tool which is used to design and evaluate consumer-driven sustainable home delivery options. Thereby consumers are allowed to select distinct last mile logistics options based on different set of preference options. The selected last mile solution is then evaluated with a simulation approach, which shows the sustainable consequences of the chosen option and is reported back to the consumer. With this feedback on the sustainable footprint, consumers are allowed to rethink their preferences and may change their option to a more sustainable solution. This paper includes the presentation of the main goal of this interdisciplinary exploration project as well as first findings on the state of the art of existing home delivery solutions and their sustainability options. Furthermore, it shows how research has so far tackled the issue of sustainability and individualisation of last mile logistics systems in the field of grocery retailing as well as presenting an overview to the various sustainability parameters as well as methods to measure the sustainability footprint.

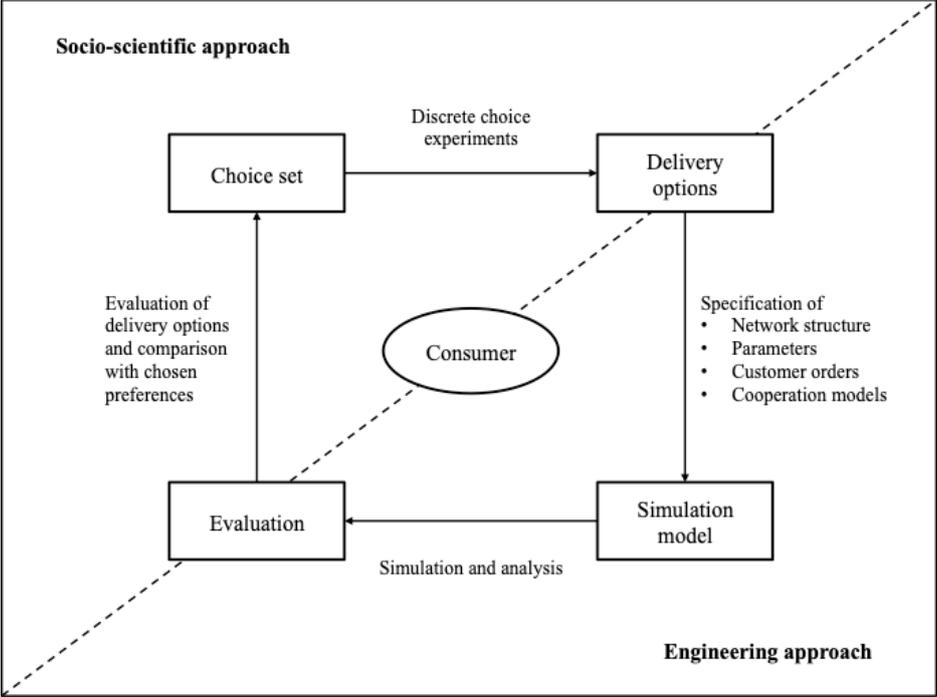
Design/methodology/approach:

The overall schedule of the study is carried out in three steps: a) systematic literature review, b) discrete choice experiments, and c) discrete-event simulation. Currently we execute step a) in order to present a current state of research in this area. The results will identify relevant literature which relates those areas that deal with home deliveries of groceries and individualisation such as green logistics, sustainable city logistics, packaging, food logistics, consumer logistics as well as omni-channel retailing.

The further procedure includes a methodological combination of discrete choice experiments and discrete-event simulation. By this we merge socio-scientific with engineering methods in an interdisciplinary manner. While the discrete-choice experiments allow consumers an optimal selection of home-delivery parameters, discrete-event simulation allows the quantification of the chosen option and offers a feedback by the provision of simulation results.

Findings:

As we are currently in the conceptual and development stage of our project, we can present the general idea of the suggested methodological approach, which is outlined in Figure 1. Figure 1: Interdisciplinary method for designing and evaluating consumer-centered sustainable last mile logistics systems



Due to this early research phase, we use the findings of the systematic literature review to identify the valid parameters of the suggested choice sets. Our preliminary results indicate so far, that the idea of an individualisation of home-delivery is an under-researched area. Green logistics looks e.g. only on a reduction of transport emissions (see McKinnon et al. 2015) or at the delivery interface between suppliers and professional customers where Melkonyan et al. (2017) present critical success factors for sustainable logistics systems based on causal loop diagrams. Clausen et al. (2016) though look at technical measures for the realisation of last mile logistics and examine decoupling effects of last mile logistics based on the use of various transport means and consolidation centres. In the field of food logistics Nitsche et al. (2016) show that the number of consumers who demand sustainable products as well as sustainable deliveries is steadily increasing and Bloemhoef et al. (2015) present the significant impact of packaging on sustainability. Thereby Trapp et al. (2017) exam different packaging material on their effect on sustainability. The distribution channel perspective of how consumers fulfil logistics tasks is shown by Meyer and Kotzab (2017) who present a current state of the art of research in this particular domain. The latest developments within the field of omni-channel retailing and its consequences for logistics are shown by Galipoglu et al. (2015) or Hüseyinoglu et al. (2017) as well as by Hübner et al. (2016, 2018).

Overall, we see that the knowledge in the field on individualised sustainable last mile logistics solutions is very limited.

Originality/value:

The measurement of preferences which allow customised home-delivery options for groceries based on discrete-choice experiments in combination with a discrete-event simulation for

feed-back and adaptation possibilities is an innovative approach. Thereby we are able to allow the enclosure of real consumer preferences and a critical reflection and adaptation towards more sustainable individual e-commerce home delivery solutions.

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Keywords: Sustainability, e-commerce, simulation, discrete choice experiments, food logistics, consumer logistics, human centred logistics, home delivery, last mile logistics.

OMNI-CHANNEL INTENSITY AND SHOPPING VALUE AS KEY DRIVERS TO CUSTOMER SATISFACTION AND LOYALTY

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Introduction

Omnichannel focuses on a holistic approach throughout the distribution process, providing a continuous and uninterrupted response to the customer experience through all available purchase channels (Wilding, 2013; Saghiri et al, 2017). Likewise, omnichannel intensity (OI) is a customer perspective that includes the level of perceived consistency and seamless in omnichannel shopping. In the literature, omnichannel is defined as the complete alignment of different channels and touch points resulting in an optimal customer experience with the brand (Lemon and Verhoef, 2016; Ailawadi and Farris, 2017). According to Ailawadi and Farris (2017) the concept of omnichannel is focused on the integration of activities within the various channels used by the company to correspond to how consumers buy. Huré et al. (2017) conclude that it is necessary to deepen the relationships generated between intensity and shopping value (SV) in omnichannel retail distribution. All that customers are really concerned about is finding an answer to their current needs or desires in a way that is convenient, enjoyable and offers them good value (Cook, 2014). His summarized literature demonstrates that much is known about Shopping Value (Huré et al., 2017). However, the SV research does not appropriately capture omnichannel; most research so far has considered value in a single-channel context and therefore has neglected the interaction effects arising when consumers shop in multiple touch points (Melero et al., 2016). In the omnichannel environment, satisfaction and loyalty have been analysed from different perspectives (Murfiel et al., 2017; Xu and Jackson, 2019) but the aspects that influence both need to be further explored (Hiraishi et al., 2016; Haile and Björk, 2019).

Purpose*

Integration is a company retail orientation perspective, but it is necessary to be aware that the customer does not always perceive its omnichannel experience as consistent or continuous (Huré et al, 2017). In addition, although the concept of value -in particular, shopping value (SV)- has been broadly studied in previous research (Kumar and Reinartz, 2016; Leroi-Werelds et al., 2014, Huré et al., 2017), the focus so far has been almost exclusively on traditional single-retail environments, not on integrated multi-channel settings; therefore, existing SV research does not precisely capture omnichannel SV.

The purpose of this paper is to investigate the impact of omnichannel intensity (OI) and shopping value (SV) on customer satisfaction and loyalty in the omnichannel retail purchase scenario of Click and Collect.

Conceptual framework

According to the literature it will be argued that omnichannel intensity, composed of perceived consistency and seamlessness, is postulated as a variable that can positively influence customer satisfaction and customer loyalty.

Larke et al. (2018), claim that consumer satisfaction in an omnichannel system can be affected by aspects that are part of the seamless experience, while Tyrväinen and Karjaluo (2019) claim, with respect to consistency, that online and offline store images should be integrated smoothly to provide positive experiences that generate satisfaction. Swaid and Wigand (2012) conclude that in an omnichannel system consumer loyalty is influenced by the seamless experience manifested in product delivery, while Lee et al. (2019) demonstrate that consistency of content has a positive influence on customer engagement, which in turn leads to positive word-of-mouth and repurchase intention.

Therefore, omnichannel intensity, composed of perceived consistency and seamlessness is postulated as a variable that can positively influence consumer satisfaction and customer loyalty. Therefore, we posit:

H1: Omnichannel intensity is positively related to customer satisfaction.

H2: Omnichannel intensity is positively related to customer loyalty.

Consumer expectations of integrated use of offline and online shopping channels allow retailers to create an innovative offering that enhances consumer value. This requires the synchronisation of bricks & clicks, combining both physical and digital touch points in a consistent way (Verhoef et al., 2015; Picot-Coupey et al., 2016). Therefore:

H3: Omnichannel intensity is positively related to the omnichannel purchase value.

It is commonly accepted that purchase value has two components, one utilitarian and one hedonic. These values have a positive influence on consumer satisfaction and loyalty in a retail shopping environment (Carpenter, 2008). Kim et al. (2012) established the relationship between certain utilitarian components of purchase value in an online shopping environment that positively affect consumer satisfaction, while İpek et al. (2016) demonstrated that purchase value dimensions have a positive effect on consumer retention and store loyalty. Thus, given the relationship between purchase value, satisfaction, and customer loyalty, it is desirable that these relationships are also tested in an omnichannel shopping environment:

H4: Omnichannel purchase value is positively related to customer satisfaction.

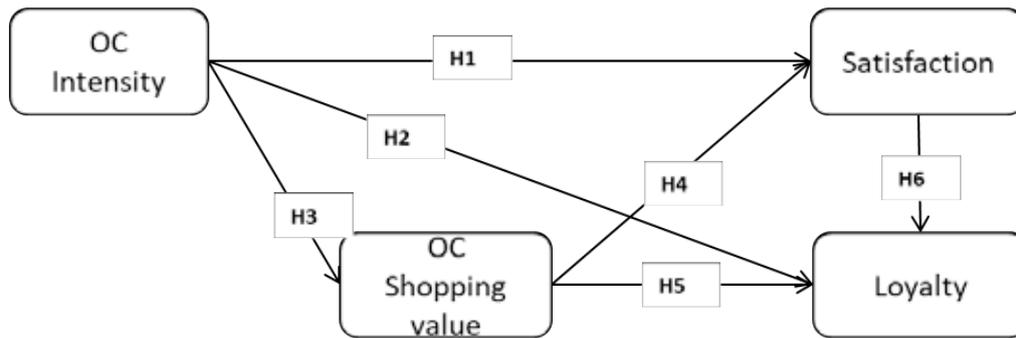
H5: Omnichannel purchase value is positively related to customer loyalty.

Finally, consumer satisfaction as a predictor of loyalty has been confirmed by different researchers in the multichannel and omnichannel field (e.g. Kibbeling et al., 2013; Murfield et al. 2017), so we propose:

H6: Satisfaction is positively related to loyalty.

Figure 1 shows the model proposed to be tested according to the hypotheses raised.

Figure 1. Model



Design/methodology/approach*

For the development of the research, a quantitative study is carried out based on omnichannel purchase experience of customers who have purchased the product through the click and collect system. Given the impossibility of initially selecting only the universe of omnichannel shoppers, we decided to follow Hüseyinoğlu et al. (2018) and select the sample in a non-probabilistic way by the exponential snowball method. A total of 759 self-administered online questionnaires were sent out, from which 285 questionnaires were obtained with valid responses.

A 24-item questionnaire between end users of click and collect purchasing system was conveyed. The scale of omnichannel intensity is developed from that proposed by Huré et al. (2017) in whose work they capture the theoretical essence of the omni-channel purchase, generating a concept they call "omnichannel intensity", which is made up of two key components: perceived consistency and "continuity". The perceived purchase value is measured in this study using the scale of Aurier et al. (2004), previously used in related fields (e.g. Voropanova, 2015). As for consumer satisfaction, it has been considered a specific purchasing experience relative to perception standards (Davis-Sramek et al., 2009), so the scales proposed by them have been used, adapting them to the B2C context. Finally, with respect to loyalty, the consumer loyalty scale tested by Davis-Sramek et al. (2009) has been used because it is made up not only of operational and relational components but also of affective components in the area of omnichannel purchasing. This scale has been adjusted to the context of the present analysis following Murfield et al. (2017).

A Partial Least Square analysis has been conducted investigating the relationships between omnichannel intensity (OI) and shopping value (SV) and its influence on customer satisfaction and loyalty using the SmartPLS v.3.2.9.

Findings*

Results suggest that there is a strong relationship between OI and SV in the particular omnichannel scenario of Click and Collect. Additionally, our results confirm a strong positive effect on satisfaction when organizations offer a seamless shopping experience and the influence of SV on customer satisfaction and loyalty.

According to the results obtained (Table 1), all hypotheses are accepted.

Table 1. Model hypothesis testing results

Hypothesis	Structural relationships	Standardized β	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Statistical Significance	Hypothesis
H1	OC INTENSITY → SATISFACTION	0,624	0,634	0,049	12,672	0,000	***	Accept

H2	OC INTENSITY → LOYALTY	0,514	0,530	0,056	9,098	0,000	***	Accept
H3	OC INTENSITY → OC SHOPPING VAL	0,634	0,648	0,046	13,644	0,000	***	Accept
H4	OC SHOPPING VALUE → SATISFACT	0,358	0,348	0,074	4,819	0,000	***	Accept
H5	OC SHOPPING VALUE → LOYALTY	0,562	0,555	0,079	7,141	0,000	***	Accept
H6	SATISFACTION → LOYALTY	0,385	0,385	0,085	4,522	0,000	***	Accept

Original/value*

The general contribution of this work is its significant addition to the literature on the analysis of the omnichannel from the perspective of the customer experience. More specifically, it investigates the concept of omnichannel intensity and shopping value and its relationship to satisfaction and loyalty.

Shopping value is confirmed in the omnichannel environment as a substantial element in its relationship to customer satisfaction and loyalty, as noted in previous studies by Wallace et al (2004) and Gawor and Hoberg (2018). Our results confirm the findings of Leroi et al. (2014) and Kumar and Reinartz (2016) who argue for the need for synchronization between channels to facilitate the customer's omnichannel journey by providing higher purchase value that will transform into greater satisfaction. In addition, it is confirmed that customers are more satisfied when the organization offers the customer a barrier-free shopping experience that facilitates mobility and shows consistency between different shopping channels.

Practical implications

It is convenient to centralize the communication and user services in order to have a comprehensive knowledge base of the user; the centralization of information will allow retailers to control the routes of the customers, thus being able to personalize the service and avoid possible points of conflict. It is also important to develop the same marketing tools in all display and purchase options (brand image, offers, promotions, assortments) by merging the ecommerce website, mobile app and physical stores into a coherent shopping experience.

An equally important aspect is logistics, packages and deliveries accumulate and inventory management techniques have to be established to enable orders to arrive in the right conditions, as soon as possible and at the place preferred by each consumer in each shopping channel.

Research limitations and outlook

The limitations of this paper derive basically from its scope. Omnichannel covers not only the integration of various channels, but also the use of different electronic devices. In our case, we have only contemplated the purchase on-line and collection in store and on the other hand, we have not taken into account from the device from which the purchase was made.

From this investigation interesting lines are opened for future studies. We consider interesting to analyse how the use of different electronic devices affects the established relationships.

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Appendix

Keywords*

Omnichannel, shopping value, omnichannel intensity, customer satisfaction, customer loyalty.



“LOGISTICS SERVICE QUALITY FROM FRENCH CONSUMERS PERSPECTIVE: SOME INSIGHTS ON CONCEPTUALIZING AND MEASURING IN E-RETAILING”

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Purpose – Our research aims to develop a scale for the measurement of logistics service quality in online retailing (OLSQ), specifically in the French context.

Design/methodology/approach – This paper presents three studies. The first one was a qualitative study deriving scale items from the literature by content analysis of 18 semi-structured interviews. A survey-based approach was then used to collect quantitative data. Study 2 extracted items from a quantitative data set of 741 e-consumers by exploratory factor and reliability analyses. Study 3 applied psychometric testing and confirmatory components analysis based on PLS approach to data from an online survey of 1038 e-consumers in France.

Findings – The results confirm a 26-item scale to measure six dimensions (product availability, communication, delivery rapidity, delivery reliability, condition, and return/exchange service). Several dimensions derived from French data are found to be in line with those identified in previous studies, and some others are developed from this research.

Research limitations/implications – This research studies OLSQ in non-food products. Further testing of the scales with food products is necessary for validity enhancement and generalization.

Practical implications – We attempt to shed some light on the underlying aspects of OLSQ. This will help e-retailers to improve it. The final goal is to make OLSQ as an advantage to gain market share in e-retailing.

Originality/value – The paper bridges the gap in the empirical works of OLSQ in e-retailing by studying the underlying dimensions in the evaluation of this concept.

Keywords logistics service quality, e-retailing, consumer perspective, measurement scale, France

Paper type Research paper



“A CROSS-NATIONAL COMPARISON OF CONSUMERS’ CROSS-BORDER ONLINE-SHOPPING INTENTION”

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(University of Siegen)

Cross-border online shopping describes the phenomenon of consumers conducting online purchases in foreign countries, instead of buying online in their home country market. While market data indicates globally increasing numbers of cross-border online purchases, little is known about the benefits that drive or the risks that impede consumers’ intention for cross-border online shopping. Besides, it is unclear if the drivers and barriers are the same for consumers in different country markets, especially in advanced versus emerging markets. We develop and empirically test a cross-border online shopping model to investigate cross-border online shopping behavior in two European country markets – Germany and Romania. In total, we obtained data of N=409 consumers (228 from Germany and 181 from Romania). For testing our hypotheses, we rely on partial least squares (PLS) structural equation modeling and perform a multigroup analysis. Our results show that consumers’ cross-border online purchasing intentions are affected by perceived benefits and risks of cross-border online shopping as well as by cosmopolitanism. A negative effect of consumer ethnocentrism on the intention to make cross-border online purchases was found only in one country market. The insights from this study entail implications relevant for marketing theory and retail management. In particular, findings help to understand the perceived benefits and risks of cross-border online shopping and constitute a helpful instrument for future research in the area of international online shopping as well as a foundation for retail managers to understand what kind of trade-off consumers face when considering making cross-border online purchases.



“ARCHETYPES OF DRIVER CONFIGURATIONS LEADING TO FOREIGN MARKET EXIT – AN INVESTIGATION INTO EUROPEAN GROCERY RETAILING”

David Schmid, Finn de Thomas Wagner, Dirk Morschett
(University of Fribourg)

Research into the drivers of foreign retail divestment is characterized by studies that uncover different individual drivers that lead multinational retailers to divest from certain countries within their international portfolio. However, even though scholars regularly mentioned that such drivers are likely to exert their effects not in isolation but in combination with each other, configurations of drivers that affect exit decisions simultaneously are under-researched. We qualitatively investigate the drivers that lead to all 32 country exits of grocery retailers in Europe between 2014 and 2018. By doing so, we demonstrate that in most exit cases, configurations of multiple interrelated drivers at the subsidiary, the host-country and the parent-company level jointly influence retailers to take exit decisions. By classifying configurations based on their underlying rationale, we identify five archetypes of exit driver configurations, which suffice to explain all exit cases. Furthermore, we show that exits, even though related to strategic refocus decisions, are often the result of troubles at different levels. In terms of future research avenues, we propose extending our typology by applying our qualitative approach to different contexts, and to use quantitative research based on the qualitative findings to generate more generalizable and robust results.

‘TESTING THE WATER’ – ALDI SÜD AND COSTCO’S CHINESE (PRIOR-ONLINE) MARKET ENTRY

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Introduction

The issue of market entry strategy continues to be of great interest to international business academics and practitioners (Dunning, 1993; Doherty, 1999; Wang, 2003; Huang and Sternquist, 2007; Park and Sternquist, 2014; Swoboda et al., 2015; Coe and Wrigley, 2018). Particularly, the challenge of market entry into China has become an increasingly important one of Western companies of all shapes and sizes. The Chinese market holds as one of the most attractive expansion targets for retail companies worldwide (AT Kearney, 2019). Yet, with rapid changes occurring in the market, it also represents one of the most competitive retail environments (Hardaker, 2017; 2018b) and is continuing to strengthen its role as the global leader in e-commerce (Bu et al., 2019). Recently, several high-profile international retailers have divested from the Chinese market due to a variety of both general and sector specific reasons, such as inadequate localization of product assortment and management personnel as well as fierce competition from local retailers and e-commerce (Burt et al., 2019; *Zhang & Hardaker, 2020*). Being forced to participate in the irreversible digitalization of commerce in China, many international retailers operating store networks are not able to compete with the IT infrastructure or and the logistics network of local retailers. Moreover, the recently introduced “New Retail” pose additional challenges to new market entries, as the concept obliges all-in-one channel integration between online and offline retail businesses. Lately, however, retailers new to the market entered China via online shop, as the examples of Aldi Süd and Costco reveal. So far, the German discounter has relied heavily on its standardized concept developed in its domestic market and is pursuing a global internationalization strategy with the rapid establishment of a (stationary) branch and distribution network (Colla, 2003). In China, however, where Aldi’s discount format is unlikely to be successful (Hardaker, 2018a), the German retailer is reinventing itself as a premium retailer, totally renouncing the discount format it operates globally and entering the market with a digital shop before having opened its first branches in Shanghai in 2019. Similarly, American warehouse operator Costco opened its

first store in the suburb of Shanghai in August 2019, two years after entering the market via an online shop. This method of market entry represents a new strategy amongst grocery retailers. Nevertheless, while online market entry seems beneficial in several ways, it also faces substantial risk factors, as retailers have to overcome market challenges within the constraints of digital environments (Watson et al., 2018). This includes the low status of territorial embeddedness, which is widely recognized as an essential factor for a retailer's internationalization process to be successful (Hess, 2004; Tacconelli and Wrigley, 2009; Burt et al., 2017; Wood et al., 2019). A research gap regarding a broader conceptualisation of the prior digital market entry and the recognition of the underlying circumstances and dynamics has been identified. Although, digitalisation is not a new phenomenon in retailing (Hagberg et al., 2016), there is a paucity of studies that analyse the transformations of expansion strategies due to digitalisation and the long-term, macro implications of the latter.

Purpose

The purpose of this paper is to investigate the internationalization strategy of the two retailers Aldi Süd and Costco in China. The paper addresses the lack of studies that analyze the potentially far-reaching effects that digitalization might have on the market entry strategies of retailers. Consequently, the purpose of this paper is to fill this research gap by examining how market entry strategy is transformed by digitalization. More specifically, the paper aims to examine why Aldi Süd and Costco for the first time deviate from their usual expansion strategy in regard to their market entry method (online shop first) as well as if and how the prior-online market entry reflects a strategic response to organisational challenges faced by retailers in the Chinese market. Additionally, this paper seeks to partially follow on from the research by Wood et al. (2019), who study the embeddedness processes within the internationalization of online fashion retailers. They question whether the extensively acknowledged requirement for retailers to obtain territorial embeddedness within host markets is considered relevant in online international retail expansion. However, in contrast to the fashion sector, this paper intends to contribute to the conceptual debate in regard to grocery retailers in China and to the prior-online market entry approach.

Design/methodology/approach

The paper is based on expert interviews with senior executives of the two international retailers, but also with retail specialists and consultants in order to receive a more balanced observation of the Chinese market. Twelve interviews were conducted in 2015, most of them gaining new

relevance considering the recent divestment activity and Aldi Süd's market entry as realized in the meantime. Three additional interviews were conducted in March 2020, including one written interview with the Head of Communication at Aldi Süd China. Anonymity has been assured to the two interviewed retail experts from each of the two examined retailers Aldi Süd and Costco. All oral interviews lasted 45 to 110 minutes and were partly recorded, transcribed and analysed. Interview questions asked to Aldi Süd and Costco covered four main topics, namely (1) challenges in the Chinese market (e. g. *What are the main challenges in regard to the Chinese market?*), (2) changing strategy in the Chinese market (e. g. *What are the key advantages/disadvantages of the online-first entry? How does the online shop influence the store network and vice versa?*); (3) competitors (e.g. *Specific problems that Tesco and Dia had to face in the Chinese market: What are Aldi and Costco doing differently?*; and (4) localization and embeddedness (e. g. *Is localization a key target? To which scope can it be achieved within the online market entry? How do Aldi and Costco adopt to the Chinese market?*). The interviewees were mainly senior managers who were typically in charge of their firms' operations in China in the spheres of sales, store-development strategy and expansion. However, especially for interviews with the senior managers, in few cases, recording or verbatim note-taking was strongly discouraged, wherefore both off-site and on-site note taking methods were used. A clear limitation of this paper lies in the limited number of expert interviews as well as the risk that respondents might be subjective in their assessments of their own company's skills relative to those of competitors. However, the explorative nature of the study allows the suggestions of initial conceptualizations as well as the derivation of several implications, which are of high value for further studies in this field. Initially, after reviewing the literature on market entry strategies, a conceptual framework consisting of major challenges which have to be faced by retailers in China in regard to embeddedness is developed. The following chapter analyses and exemplifies if and how digital market entry replies to or transforms each of the elements included in the framework. Finally, a brief research agenda for work on digital market entries is outlined in chapter four in order to further delineate the transformation of market entry and retailing expansion respectively.

Findings

The prior-online market entry by international retailers Aldi Süd and Costco represents a strategic response to organizational challenges and opportunities that have to be faced in the highly competitive and fast-evolving Chinese market. For both retailers, prior-online market entry offers the opportunity to 'test the water', since it allows a higher degree of flexibility at

reduced costs and the staggered build-up of embeddedness in order to facilitate the establishment of a store network. Interestingly, also differences between the two retailers in why to adopt the prior-online entry prevail. While Aldi Süd is said to gain experience of the Chinese market and absorb the unique e-commerce knowledge, which the retailer lacks in its other markets, Costco is using the prior-online entry mainly for the establishment of sourcing processes as well as the creation of relationships with suppliers. While Costco is using a standardized approach for its physical store network in China as in other international markets, Aldi Süd is reinventing itself with a completely new strategy, thereby studying and evaluating differing cultural tastes and regulations via its online store for the operation of its physical store network. Consequently, in contrast to Costco, the inherent paradox of localization and standardization (Zhang and Wei, 2015) is strongly influencing the strategy of Aldi Süd in China.

Research limitations/implications

As the phenomenon of transnational grocery retailers using prior-online market entry is still very new, this study is limited to the discussion of two retailers' entry and expansion strategies within the Chinese market. Moreover, the number of expert interviews is limited, and non-replicable one-off interviews are inherent with the risk that interviewees might be subjective in their assessments of their own company's skills relative to those of their competitors'. However, the explorative nature of the study allows the suggestions of initial conceptualizations as well as the derivation of several implications, which are of high value for further studies in this field.

Practical implications

The online/digital market entry can be used as a means of establishing crucial relationships (with suppliers and local authorities), as well as absorbing knowledge regarding the way of doing business and learning about Chinese customers, allowing expansion with relatively low levels of resource and reduced costs. Yet, it represents one part of the overall strategy and it remains uncertain as to what degree prior-online market entry supports a following brick and mortar expansion.

Originality/value

Prior-online market entry strategy by grocery retailers entering the Chinese market has not yet been the focus of academic research. In regard to grocery discount retailers, it has so far been argued that food discounters are prepared to accept a lower expansion speed in order to expand at minimum risk and cost (Turban and Wolf, 2006). In addition, countries were selected which

already have a certain market maturity (Colla, 2003). The Chinese market entry makes it clear that in times of digitalisation, a prior-online market entry can expedite the expansion of physical stores in a more cost-effective way. By minimising risks and optimising offers, prior-digital market entry opens up the possibility of experimenting and building up relationships in the market in advance to the establishment of a physical store network. Yet, in comparing Aldi Süd and Costco, it becomes apparent, that the prior-online market entry plays different roles in their overall strategy in the Chinese market.

Keywords: Retailing, Internationalization, Digital Market Entry, China, Aldi, Costco

Article Classification: Research Paper

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BRAND CHOICE PHASES IN A VIRTUAL SUPERMARKET: AN EYE-TRACKING BASED ANALYSIS

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Introduction

Having knowledge of the consumer's brand choice process at the point of sale allows retailers to optimize their brand assortment. This choice process can be analysed by observation-based methods. An analysis of consumers' gaze behaviour through eye-tracking can effectively delimit the phases of this choice process.

The previous literature has indicated that brand choice at the point of sale is a multi-phased process (Shankar et al., 2011), although there is no consensus on the number or type of phases. Russo and Leclerc (1994) made one of the main contributions to the theoretical framework of the study of this topic. They saw the choice process as a series of evaluations, comparisons, and eliminations of different options, ending with the selection of a single choice from those that formed the choice set.

The recent application of virtual reality to marketing (Alcañiz, Bigne, and Guixeres, 2019) has opened up new opportunities for researching consumer behaviour in virtual environments. The development of virtual spaces that resemble real stores calls for new research. This work aims to analyse the phases of the brand choice process in a virtual supermarket.

Purpose

The objective of this study is to demonstrate, in a virtual environment, whether brand choice at the point of sale follows the three-stage sequential process identified by Russo and Leclerc (1994): (i) Orientation; (ii) Evaluation; and (iii) Verification. The literature accepts that the choice process is multi-phased, although the analysis methods used prior to the advent of eye-tracking significantly hindered the specification of the phases. The present study uses fixations, refixations and saccadic movements. The study is based on the representation of a virtual supermarket aisle and beer purchases. It was shown that brand choice is a three-phased sequential process that moves, first, from the location of products/brands, and second, through an evaluation stage where the choice set is formed, and, third, ends with brand selection. It was shown that the three choice process phases were present in 85% of purchases studied.

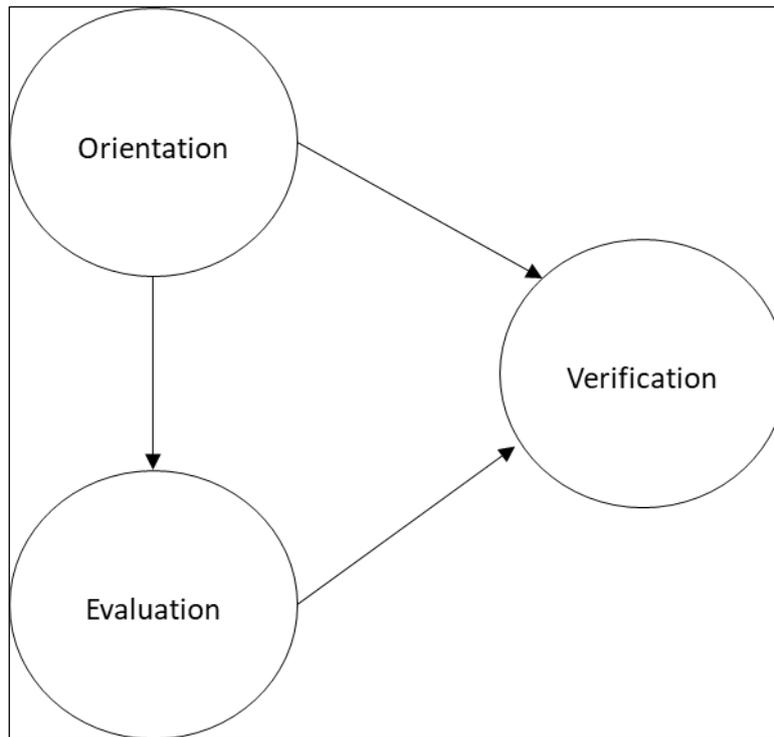
Conceptual framework

Some studies agree on the existence of specific phases. In fact, it is widely believed that before the selection stage there is an option evaluation stage (Bettman et al., 1998), during which information is gathered on the choices available, with a view to later eliminating those considered unsuitable (Andrews and Sirivasan, 1995; Wedell and Senter, 1997).

Calculating the phases with methods prior to the use of ocular fixations proved difficult. According to Russo and Leclerc (1994), the choice process is a series of repeated evaluations, comparisons, and eliminations of different options, ending with the selection of a single choice from those that formed the choice set.

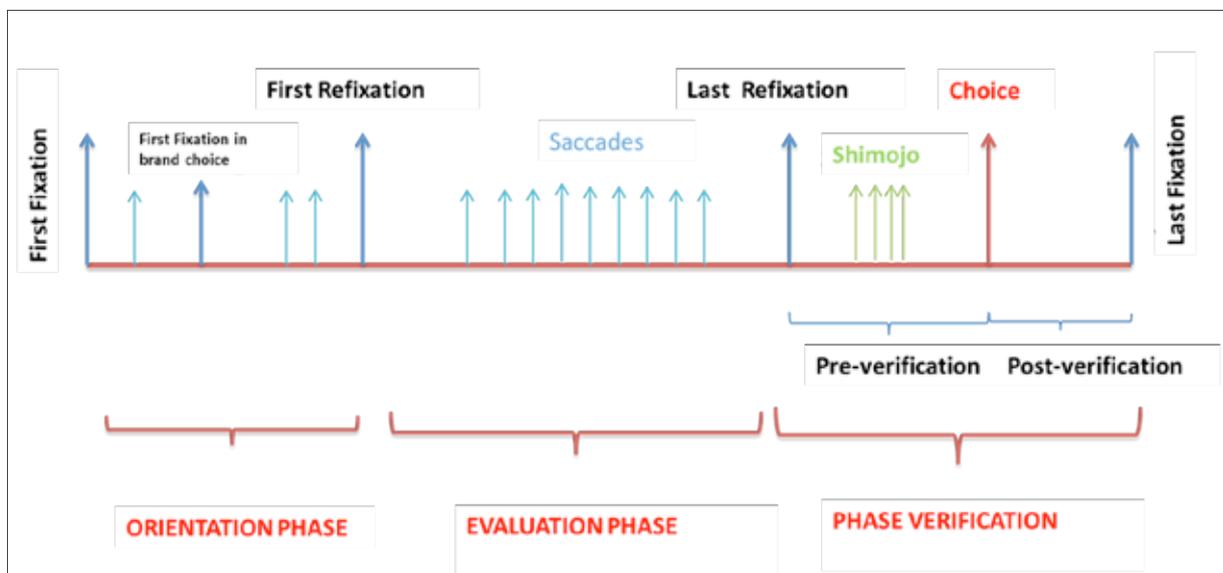
The present study examines the brand choice purchase process phases established by Russo and Leclerc (1994): (i) Orientation; (ii) Evaluation; and (iii) Verification. They were examined through the following eye-tracking metrics: (i) first fixation; (ii) first fixation on the brand chosen; (iii) first refixation; (iv) saccades; (v) final refixation and (vi) final fixation. Fixations, or destinations, are focus points where information is cognitively processed. Refixations are fixations that occur after a first fixation. Saccadic movements, or transformation movements, are eye movements between fixations (Duchowski, 2007).

Russo and Leclerc (1994) distinguished the three stages depicted in Figure 1: (i) stage 1, during which a first inspection of the purchasing environment is carried out. This phase goes from the first fixation, at the beginning of the purchase process, until the first refixation; (ii) In stage 2 assessments are made of the different options available. This stage begins with the first refixation. It includes the majority of saccadic movements; these movements indicate that the consumer is in an evaluation process. It ends with a final refixation, which also marks the beginning of the next stage; (iii) In stage 3 the final choice is made. This stage begins with the final refixation and ends with a last fixation made before the beginning the next purchase decision-making process. The fixations do not end with the choice of the brand. Before the brand is finally chosen, it is subject to a gaze bias with increased fixation intensity and frequency, known as the Shimojo effect (Shimojo et al., 2003), and later fixations (see Chart 2).



Graph 1. Three stage sequential brand choice process

Based on the literature, the following hypothesis is proposed: H1: Brand choice in a virtual environment is a sequential process composed of: (a) an orientation phase; (b) an evaluation phase; and (c) a verification phase.



Graph 2. Three phase brand choice process at the point of sale, delimited by eye tracking

Design/methodology/approach

A beer aisle in a supermarket was virtualized. The experiment was performed in a CAVE semi-immersive environment, in which subjects used SMI eye-tracking glasses adapted to 3D

viewing (Bigné et al., 2016). Virtualization is an exact reproduction of a planogram of a Spanish supermarket. All brands, formats and number of facings are proportional to market shares. (See Illustration 1).

The study was carried out in Valencia (Spain) .The participants were recruited from the i3B Institute database by convenience sampling. The sample was 120 people of both genders, both beer consumers and non-consumers, and beer and non-beer purchasers. The age group was between 20 and 60 years. They were each given a 15 Euro shopping voucher as compensation.

To identify whether the sequential three-phase process was followed by the subjects, eye-tracking data, which were categorised based on their purchases, were analysed. A Matlab process was followed.

Although both predefined decisions and brand loyalty are considered relevant factors, they have not been considered because they do not affect the existence of the three phases of the brand choice process.



Illustration 1. Planogram

Findings

Table 1 shows the results of the metrics for each of the three phases proposed by Russo and Leclerc (1994).

PHASE	AVERAGE TOTAL DURATION	NUMBER OF PRODUCTS VIEWED	NUMBER OF FIXATIONS ON PRODUCTS	AVERAGE NUMBER OF FIXATIONS ON PRODUCTS	AVERAGE TIME VIEWING EACH PRODUCT	AVERAGE DURATION OF EACH SACCADE	NUMBER OF SACCADES	AVERAGE FIXATION DURATION
ORIENTATION	214,80	33,88	70,17	2,07	6,34	119,93	64,74	133,83
EVALUATION	102,30	13,95	46,16	3,31	7,33	212,20	41,93	166,67
VERIFICATION	75,52	9,66	43,13	4,46	7,82	119,52	40,93	172,96

Table 1. Results of the three-phase brand choice process

As Table 1 shows, average duration time in the orientation phase was longer than average time in the evaluation and verification phases. This finding does not coincide with the assumptions in the literature review; the novelty of virtual environments requires participants to observe them more extensively than real environments. The number of products observed was greater in the orientation phase than in the other phases, the number of product fixations being equally higher in this phase than in the others. However, the average number of fixations per product, and the average observation time per product, are less because, although a greater number of products are viewed, they are not paid as much attention as in the evaluation phase, where average number of fixations per product, and average observation time per product, is higher.

The analysis allows H1 to be confirmed, as follows. Brand choice is a three-phase sequential process: (a) Orientation; (b) Evaluation; and (c) Verification. These phases occurred in all of the transactions undertaken by the study participants, with the proviso that the orientation and verification phases were merged in 15% of the purchases, as when successive purchases were made the participants saved effort by using the information gathered from previous purchases and applied it directly in the evaluation phase; in these cases the orientation phase did not take place, because the participants uses the previously-gathered information. It was confirmed that the phases occurred in 85% of purchases. Thus, the brand choice process is indeed divided into three sequential phases. However, while the verification phase occurred in all purchases, this was not the case with the other two phases; they did not occur in 15% of purchases. It was shown that when subjects made more than one purchase, in the first purchases the three phases appeared in 100% of the cases. However, as the number of purchases increased, the orientation and evaluation phases progressively disappeared. This may be because the subjects in their later purchases took advantage of the information gathered in previous purchases. That is, they did not have to repeat the whole process, as the information they required had been derived from those earlier purchases. This does not mean that the phases do not occur, but that they are shared between different product purchases, as is the case with the orientation phase which, according to Russo and Leclerc (1994), involves training for, and assistance to, the subsequent phases and, as with the evaluation phase, the assessment of alternatives influences subsequent information searches (Willemsen et al., 2011).

Original/value

The joint use of virtual reality and eye-tracking opens a new line of research, where combining new technologies can provide an integrated approach using different variables from different measurement systems, and even generate new metrics and, thereby, enhance the scientific literature on distribution (Bigné et al., 2016).

Virtual reality creates the possibility of replicating real-life situations (Blascovich et al., 2002). At the retail shop level, testing selling conditions in a virtual environment to better understand in-store consumer behaviour offers retailers not only a differentiation advantage but also a cost saving (Meißner et al., 2017) against similar tests undertaken in real environments.

Facilitate the work of those responsible for trade marketing and make in-store decisions based on scientific evidence. In this way, the shopper's decision set can be known by studying the fixations and saccadic movements during the evaluation phase and in this way knowing what other brands the shopper has implicitly evaluated as possible purchase options.

Research limitations and outlook

The present study has not been replicated in real or in other virtual environments. Given the lack of research in this area, it would be interesting to replicate the study in an actual sales environment (Clement et al., 2013), and to relate its results to purchase data from real sales environments, as proposed by Larson, Bradlow and Fader (2005), and to include other product categories and, even, to use other neurophysiological measures, such as EEG, GSR, and HRV (Léger et al., 2014).

Keywords

Eye-tracking, brand choice phases, neuromarketing, virtual reality, supermarket

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IMPULSE BUYING AND E-GROCERY: A CONCEPTUAL MODEL

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Introduction

The growing penetration of digital technologies and mobile devices is transforming individuals' life in every aspect, from the way people communicate to the design of the shopping cycle they face, from the information seeking to the purchase itself. The boundaries between online and offline environment are just crossed.

The phenomenon of e-commerce in the Italian context is expected to show a growth rate of 7,3% in the period 2020-2024. The market's largest segment is Electronics & Media, while Food and Personal Care sector represents the 12% of the market value in 2020 (Statista).

With the growing acceptance of the Internet among the population and the rapid growth of multi-channel sales, consumers are constantly exposed to marketing stimuli that seek to stimulate impulse buying. For example, the web is an alternative channel to stimulate impulse purchases and allows the consumer to buy during his free time, offering shopping opportunities 24 hours a day and seven days a week, anywhere (Phau & Lo, 2004).

Consumers often act impulsively when making online decisions. In fact, the 40 percent of online purchases can be defined on impulse. This is triggered by easy access to products, ease of purchase (just a click to order) and absence of social pressures and efforts (Jeffrey & Hodge, 2007).

So what about e-grocery? How consumers behave when they buy food products online? Is the phenomenon of impulse buying still present online? If yes, to what extent? In the literature, many studies have identified the variables affecting impulse buying during the physical grocery shopping trip (Beatty & Elizabeth Ferrell, 1998; Bhakat & Muruganantham, 2013; Hultén & Vanyushyn, 2011). Prior research on impulse buying in grocery sector found its antecedents in three main categories which include both endogenous and exogenous variables: individual characteristics (Weun, 1998); product category variables and type of food consumed (Inman et al., 2009; Jones et al., 2003; Mishra et al., 2012) and situational factors (Beatty & Elizabeth Ferrell, 1998; Belk, 1975).

Other studies have focused their attention on developing models in order to understand the impulse buying behaviour also online, but mainly in sectors other than the grocery one, like fashion or electronics and media (Jeffrey & Hodge, 2007). Thus, the present work, by combining the theory of offline impulse buying in the grocery sector and online impulse buying, intends to measure the phenomenon of impulse buying in the e-grocery context.

Conceptual framework

Online shopping frees consumers from the restrictions that occur in offline shopping, increasing the chances of the adoption of impulsive behaviours (Chan et al., 2017). Thus, it is reasonable to think that this can also occur while people look for food products. Many researchers have identified two main types of variables: endogenous and exogenous. The endogenous ones focus directly on the individual, examining the personal characteristics that push him to implement impulsive purchasing behaviour. These factors concern the personality of consumers, their inner tendency to behave impulsively, emotional states and socio-demographic factors (Kacen & Lee, 2002).

On the other hand, the exogenous variables refer to marketing stimuli that aim to influence the urge to buy impulsively and then consumer's actual purchasing behaviour (Dawson & Kim, 2009). In particular, different authors have found in website design, assortment, price, website usability, money and time spent online as antecedents of impulse buying.

Specifically, Jeffrey and Hodge (Jeffrey & Hodge, 2007) studied the influence of the amount of money spent by consumers on the likelihood that consumers would purchase a product impulsively. The results of a logistic regression analysis have shown a significant effect: the higher the amount spent, the higher the amount of purchases made on impulse. Similarly, the more time spent browsing on the website looking for food products, the more purchases are made impulsively. This is because the possibility to see more products could increase the probability to buy something not planned before (Buttle, 1984).

Furthermore, also the products offered, the prices and how the website is designed could influence the way customers browse the web and consequently the urge to buy impulsively and then the impulsive behaviour. Researchers speak of level of attractiveness of the assortment, in terms of perception of the assortment size, adequacy of the value for money of the products offered, the average level of price, presence of price-cut, consistency with consumer's interest (Newman, 2015). The amount of purchases made impulsively increases when customers have a positive perception and attitude towards assortment and price.

In the same way, also perceived ease experienced while visiting the online store has an impact on shopping behaviour. Specifically, it has been found that a positive evaluation of the site's usability, including ease of use, and the design of the website, arouse positive emotions and this leads to a positive impact on impulse buying behaviour (Éthier et al., 2006).

Finally, a great importance must be given to the device through which customers make their shopping. Many studies have, in fact, found that the touch interfaces can change consumer behaviour (Brasel & Gips, 2014). However, according to the authors' knowledge, no clear evidences are given about the effect on impulse buying behaviour in the grocery setting.

Purpose

Given all the above considerations, the present work wants to measure the phenomenon of impulse buying in the e-grocery sector. In doing so, we have combined the models already tested in the literature. In particular we took into consideration the impulse buying models in the grocery sector (offline purchases) and the models in the online environment (not specifically tested for food products). Furthermore, we wanted to test the impact of the device (mobile vs computer) on shoppers impulsivity.

Design/methodology/approach

In order to meet our goal, we conducted an experiment in a laboratory setting. We divided a sample of 122 participants (80% female, 25 average age) into two homogeneous groups for each of the devices considered (mobile and computer). Then, we asked them to fill in a brief questionnaire about their shopping habits, socio-demographic characteristics and their diet and to draw up a shopping list imagining to recreate a real shopping experience. Then, they were invited to browse the online shopping page of a leading Italian chain using the mobile app or the website. After the online grocery shopping they were asked to express an opinion about their experience and their perception about the assortment, the price, the site design and the site usability and the urge felt by participant to buy impulsively during the shopping. Then, we took note of the total amount and the time spent for the purchases. Finally, we measured the impulse buying comparing the basket of each participant with the shopping list drafted at the beginning of the experiment. All the data has been analyzed using SmartPLS package and a model has been proposed.

Findings

Looking at the results of the of the structural equation model we found that the site design influences the way customers browse the web and have a positive impact on impulsive purchases. On the contrary, we found a negative relationship between site usability and browsing. We found no relationship between assortment and price perception on browsing and impulse buying. Furthermore, we found a positive impact of money spent on impulse buying, while we found no effect of the time spent for the shopping. Finally, concerning the device, we found that participants experienced more impulsive purchases when the shop using a computer rather than using the mobile app.

Originality/value

The present work is the first attempt to analyze and measure the phenomenon of impulse buying behaviour in the e-grocery sector and the role of the device on the shopping experience.

Managerial implications

These results could help retailers to better understand how consumers behave when they shop online and to develop different marketing strategies based on the device used.

Research limitations

The limitations of the present work are connected with the sample size, not really representative of a larger population since we considered the website/app of a single Italian retailer. Finally, we conducted our measures in a laboratory setting and not considering real situations.

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PRICING AND CONSUMER DECISION MAKING FOR PREMIUM PRIVATE LABELS IN GROCERY RETAILING

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Introduction

Highly intense competition, strong concentration tendencies, and a low return on sales in growing sales areas characterized the grocery retailing for a long time. To deal with these issues as well as to differentiate themselves from competitors many retailers have introduced private labelled products in their assortment (Kumar and Steenkamp 2007; Koschate et al. 2014). The associated products are commonly positioned in lower price segments and quality levels are often not far below those of national brands (De Wulf et al. 2005; Pauwels and Srinivasan 2004). Furthermore, premium positioned private labels are characterized by their capacity for innovation and superior quality, which gives the consumer a high-added value and hence, might positively influence a retailer's brand image (Ailawadi et al. 2008). Introducing premium private labelled brands in the assortment will increase the customers choice set in several product categories. From the perspective of the retailer it is therefore of crucial relevance to be aware of how the introduction of a new (premium) private label will be reflected in choice probabilities and market shares (Geyskens et al. 2010).

Purpose

Huber et al. (1982) and Doyle et al. (1999) have shown that adding a new product to a choice set can result in a shift of preference to one specific product in the expanded set of alternatives. This effect is called the asymmetrically dominance effect (ADE) or attraction effect. Hence, from a retail perspective it is of relevance to position the introduced premium private label in a way that it will dominate the premium brand in a specific product category and not the traditional private label of the retailer. With regard to the positioning and the consumers' perception of the introduced premium private labelled brand, pricing is of crucial importance. Food retailers with their own premium private labels might focus on enhancing the quality aspect, but at the same time they might be interested in attracting price-conscious customers. An inappropriate pricing could have a negative impact on the consumers' perceptions of the quality of premium private labels, which will negatively influence the preference for the premium private labelled brand (Geyskens et al. 2010).

The purpose of the paper is to investigate the impact of pricing decisions on consumer choice and product evaluations in the context of premium private labels and to answer the question what other product attributes are relevant to a purchase decision of a premium private label product in an experimental study. Within this study, a premium private labeled product was added to a choice set of two products in the product category fruit spreads (traditional private label and premium brand). In three different experimental conditions, we manipulated the

price of the premium private labelled product and the caused effects on the evaluation of the premium private label compared to a traditional private label and a premium brand were analysed.

Conceptual and theoretical framework

Previous research has discovered compromise, attraction and similarity effects which show that the previous mentioned assumptions of the classical economic standard theory often will not hold due to an influence of several contextual factors (Doyle et al. 1999, Huber et al. 1982, Simonson 1989). Basically, making a decision implies the existence of a choice of more than one option. This means that a decision for Option *A* is initially a decision against Option *B*. This decision is justified on the basis of individual preferences and interests of the decision maker. By convention, *A* is clearly preferred to *B*. By adding a third option in a choice set of two existing options, without a dominant option, individuals might chose a compromise in the decision-relevant determinants (Simonson 1989). Accordingly, under specific contextual conditions there might be a balance of properties; the added option could represent the compromise, in a trade-off between the existing options (Simonson 1989). For our study, we mainly focus on the impact of the pricing of the added option – the premium private labeled product – to the alternatives under consideration. If the price of the premium private labeled product is closer to the premium brand in the choice set, the new option – the premium private labeled product - should as well be evaluated as more similar to the premium brand. Hence, the choice probability of the premium brand should be influenced due to the introduction of the premium private labeled product. If the price of the new option is closer to the traditional private label, this should mainly have an effect on the choice probability of the traditional private label, while the choice probability of the premium product should remain stable (Simonson and Tversky 1992).

However, the findings of Sinhaa and Batrab (1999) show that price consciousness as well as value consciousness are as well of relevance in the context of consumer decision-making for private labels in different product categories. According to Burton et al. (1998) consumers may view private label products positively because of the relatively low prices (i.e., price consciousness), or because of a strong desire to maximize the ratio of quality received to the price paid (i.e., value consciousness), or view them negatively because they use the price as an indicator of product quality (e.g., price-quality associations). The findings of various studies (Lichtenstein et al. 1993; Petroschius and Monroe 1987) have shown that the price for a product has an impact on its evaluation. Plassmann et al. (2008) have shown that the evaluation of product attributes and emotions changed by manipulating the price of the product. Because of the fact that the perception of quality is indistinct precise, customers use product attributes that signal quality in the context of product evaluation. The fact that customers associate the quality of a product with the price suggests that the product-attributes evaluation of the premium private label should be more positive when the price for the premium private label is close to the premium brand.

Experimental Study: Method and Procedure

We used three different brands from the product category „fruit spreads (strawberry)“ as product stimuli in our experimental study (private label, premium private label, and premium brand). We used the official retail price of the premium brand (2.19 Euro) as well as the official retail price of the traditional private label (1.19 Euro) at the time of our study as price information for the participants in all experimental conditions. To manipulate the participants' perception of the relation between price and quality of the premium private labeled brand, we used a higher price (price adjustment towards the premium brand) and in a further experimental condition, a lower price (price adjustment towards the private label) was

determined in an experimental condition. The prices used for the price adjustments were determined in a preliminary study. Accordingly, for the price adjustment of the premium private label towards the private label a price of 1.49 Euro was chosen. For the price adjustment towards the premium brand, a price of 1.69 Euro was determined. Furthermore, in a third experimental condition we used the official retail price of the premium private labeled product at the time of our study (1.59 Euro). We also considered a control group, where the participants had to evaluate and make their choice only between the premium brand and the traditional private label. The findings of the control group were used to determine expectation values for brand choice for the premium brand and traditional private label.

At the outset of the experiment, participants could inspect the product details (price, packaging design, quantity, nutritional information, etc.) of the fruit spreads of the considered brands. Furthermore, they were able to taste the fruit spreads, so that the flavor of the fruit spreads could be considered by the subjects to assess the brands. Following this first step, the participants were surveyed with a standardized questionnaire. In this case, they were asked to evaluate the different brands based on individual product characteristics and attributes (e.g. package design, quantity, taste) and establish a ranking of their preference for the fruit spreads. All of the items used for the measurement of the different constructs were measured on a five-point rating scale (e.g., 1 = *I totally disagree* - 5 = *I totally agree*). Finally, the participants had to answer questions regarding their satisfaction with the different brands.

Overall, $n = 120$ consumers participated in the experiment and were randomly assigned to one of the three experimental groups or the control group (age: $M = 24.48$ (2.9) years, 40% female). The brands used in the experiment were mostly well known by the participants. Thus, nearly 95% of the participants were familiar with the fruit spread of the premium brand. Almost 70% of the subjects knew the traditional private label and 46.7% of them stated that they have already bought this at least once.

Findings

To study the effects of the experimental conditions, it was necessary to determine the choice probabilities for the traditional private label as well as for the premium brand based on the preference judgments of the participants in the control group (CG). The findings of the control group show a strong preference for the traditional private label (67.9%) in relation to the premium brand (32.1%). Using these choice probabilities, we were able to analyze how these choice probabilities will be influenced by the introduction and the price manipulation of the premium private labeled brand in the participants choice set. Overall, our results show significant difference regarding the choice probability of the traditional private label in each of the three experimental conditions compared to the CG. In each experimental condition, the preference for the traditional private label decreased significantly due to the introduction of the premium private label. Interestingly and contrary to our expectations, in the experimental group with the price adjustment of the premium private label close to the premium brand, the difference between the choice probabilities was highest. In this situation, the choice probability of the traditional private label was reduced by more than 45%.

Equally surprising are the results in the experimental group with the price adjustment of the premium private label towards the traditional private label. We obtain substantial changes regarding the choice probability of the traditional private label and the premium brand compared to the control group. Basically, it was not surprising that in this experimental situation, the premium private label has the highest choice probability in comparison to the other situations. Moreover, in this experimental condition, we obtained the highest choice probability of the traditional private label (50%), although this again deviates from the value

from the control group (almost -17%). 25% of the participants had a strong preference for the premium private label as well as for the premium brand.

The findings in the experimental condition, in which the official retail price is specified for the premium private label, show a change in the choice probabilities of the traditional private and for the premium brand as well. In this condition, the highest choice probability is determined for the premium private label. The traditional private label suffers in this situation a loss of about 34% compared to the control group and is chosen with a share of 33.3% of the participants. Interestingly, in this situation the premium brand loses the largest proportion compared to the other experimental groups and was chosen by 16.7% of the participants.

Moreover, the findings of several ANOVAs show significant differences regarding, e.g., the participants' assessment of value for money, the price level, the quality, packaging design, as well as the taste of the different fruit spreads between the experimental conditions. For example, adjusting the price of the premium private label towards the premium brand in the choice set had a strong negative impact on the evaluation of the different attributes of the traditional private label, e.g., on the evaluation of packaging design ($F = 2.808, p < .05, \eta^2 = .067$). Furthermore, in this experimental condition, the participants perceived the traditional private label as less imaginative ($F = 3.324, p < .05, \eta^2 = .083$) and less innovative ($F = 3.212, p < .05, \eta^2 = .079$) compared to the conditions with a lower price for the premium private labeled brand. These findings indicate that the higher the price of the premium private label, the worse the traditional private label is evaluated.

Original/value

The findings indicate that pricing is a sensitive component of a successful brand management of premium private labels, as it has a significant effect on consumer perceptions and evaluations of the related products. This concerns not only the decision to purchase or not purchase a premium private label, but also the evaluation of the product as well as of further alternatives in the choice set. At the same time, the pricing for the premium private label has a significant influence on the perception of other brands in the same product category. Moreover, the results of our study indicate that under specific contextual conditions the assumptions of the classical economic standard theory do not hold if a new option – the premium private labelled product - is added to a choice set of two existing product alternatives (traditional private label and premium brand).

Implications, limitations and outlook

As we only considered one premium private labelled product and two well-known brands in one specific product category, it is questionable whether our results can be transferred to other product categories or unknown brands. Because of this limited external validity, future research is needed to study the identified effects with different brands, including unknown and/or fictive brands, in different product categories to deepen the understanding of the underlying processes with regard to the effects on consumer-related outcome variables under study. It should also be of interest to investigate the potential role of the retail format in the context of consumer decision-making for (premium) private labels, e.g., in hard discount consumers might expressly seek for private labels, while in other formats (e.g., retailers with a broad assortment) consumers might be more likely to prefer recognized brands as the first option.

In our experimental study, we only considered a choice set consisting out of three alternative products. In a real retail setting the variety of product alternatives in a single product category is usually much more complex compared to our experimental setting, meaning that consumers might base their decision on a comparison between more product alternatives. Furthermore, in

a retail store further contextual factors should also influence decision-making, e.g. background music, or advertising at the point of sale. Besides, there might be several other aspects that potentially will influence consumer decision-making for (premium) private labels, e.g., the image of the retailer or consumer price consciousness. One might conclude that the image of the retailer should act as a moderator between the pricing and consumer choice. In follow-up research, these and the previously mentioned issues should be addressed.

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Keywords

Pricing, Premium Private Label, Product Evaluation, Consumer Decision-Making, Experimental Study

“THEY CAN’T FOOL ME!” IMPOVERISHED CONSUMER’S SHOPPING BEHAVIOUR FOR GROCERY PRODUCTS

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Introduction

In 2017, more than a fifth (22.4%) of the EU-28 population lived in households at risk of poverty or social exclusion (Eurostat 2017). The importance to cater to this part of society is also reflected in the retail landscape, where discount stores, 1-dollar shops, or even special outlets such as social supermarkets (Holweg & Lienbacher 2016), have strongly developed primarily targeting low-income consumers (Passport Euromonitor 2020). In the marketing literature, the reality of this portion of the population has been largely neglected in favour of more financially lucrative consumer segments. Against this background, several researchers have called for a better understanding of the consumption behaviour of people who face severe financial constraints (e.g. Kotler & Lee 2009; Hill 2001; Piacentini et al. 2001).

Purpose

The main objective of this research is to gain an in-depth understanding of the lived reality of consumers at the threshold of poverty. The findings contribute to extant work on consumer vulnerability and, more broadly, complement the burgeoning stream of transformative consumer research concerned about the wellbeing of consumers (Mick et al., 2012).

Design/methodology/approach

The research design is informed by contemporary consumer culture studies (Arnould & Thompson, 2005) and privileges an ethnographic approach (Atkinson et al., 2011). The immersion into the lives of a select number of cases allowed us to leverage the advantages of ethnography, which “exploits the capacity that any social actor possesses for learning new cultures” (Hammersley & Atkinson, 2007). Social supermarkets, a retail format specifically created to support people at the threshold of poverty, facilitated our entry to the group of consumers at-risk-of-poverty, who are hard to discern as such. Over several years we have been involved with consumers at the threshold of poverty, and complemented rigorous observations with in-depth interviews and photography. The research design is ongoing and evolves with the insights generated: after initial informal exchanges and encounters, we set up

formal long interviews (McCracken, 1988), accompanied shopping tours and in-home visits. Our approach was inspired by Hill (2016) demanding to “take the time to meet with and listen to the poor in their living environments and see their worlds through their eyes”. We further conducted rounds of follow-up interviews to reflect on the insights, with both our focal cases and people in their close environment (e.g. social workers, children, or store managers), in order to enrich our understanding of their lives and to triangulate emergent themes.

Our sampling approach was strongly influenced by Fournier’s (1998) seminal work on brand relationships, and her in-depth longitudinal work with two households and their members. In the selection of our cases, we assured structural variation to access different life situations, contexts, and perspectives. Laura is a retired Viennese who still lives in close proximity to the house she grew up in. After an eclectic professional life of 47 years, she now structures her life around the nine animals she lives with, and her two daughters. Her pension amounts to a figure that puts her at the very threshold of many social supermarkets and social services – sometimes she is slightly above the income limit, sometimes she is below the threshold. Michael, in turn, retired after only nine years of work, due to his inborn disability, which exacerbated over the years because of neurological problems that occurred at a later stage. He is supported by social workers who help in the household but also when he shops for groceries. Lisa is a housewife who has emigrated to Austria 25 years ago, where she gave birth to and raised her two children, who are still living in the family household. While highly educated in her home country, Lisa never worked because she was not eligible to work in the area of her studies and not emotionally equipped to work as a caretaker or housekeeper. Prolonged encounters, observations, and interactions with each of our cases allowed us to understand their lived reality and comprehend their perspectives on their precarious situation.

Findings

We find that consumers have developed sets of practices and strategies to manage the restrictions they face in everyday life. Four themes in particular have emerged across the various cases of the research:

- (1) *Thresholds within the social system have a strong influence on behaviours.*
Interviewees undertake strong efforts to gain a better understanding of the multiple thresholds of the social system that directly impact their income (e.g., minimum benefit level, exemptions from broadcasting or public transport fees, gaining access to food donations, etc.). They navigate the thresholds by deploying different strategies (e.g. creating goodwill through connections) and practices (e.g. extremely meticulous energy saving in the household).
- (2) *Resourcefulness goes with unconventional shopping, storage, and consumption behaviour.* Grocery shopping cycles range from conventional shopping 2-3 times a week up to once a month in order to deliberately restrict impulse purchase. All interviewees are eager to make good shopping deals and showcase pride when recounting their savings. Their logic is often hard to follow as they show drawers cramped with chocolate bars (to maximize the benefits of a -25% discount) or fridges filled with 2.5 kg buckets of yoghurt (which are consumers in three consecutive “yoghurt days”). Bulk purchases are stored in special cupboards or deep freezers.
- (3) *Establishment of an excellent information network*
All of our interviewees have a very good understanding of grocery products’ retail prices across different retail stores. They use vast sources of information such as leaflets, newspapers, mobile apps, loyalty clubs, or information from friends and

family, to guide their shopping behaviour Mobile devices are used extensively. Time is no restriction in their shopping routine as few of them are in working relationships.

(4) *Strong interest for social interaction and openness in sharing their experiences.* Our interviewees are all keen to show and explain their “system,” and to provide tips and tricks regarding shopping, storing, and cooking. Laura, Michael, and Lisa have gained a level of confidence with their modus operandi and want to contribute by sharing their insights.

These findings show the diverse themes that influence our consumers in their everyday shopping behaviour. What might defy rational logic (e.g. using one’s limited budget to look after 9 animals; bulk purchases in light of monetary constraints) makes sense and provides value (e.g. companionship; assurance) to consumers at risk of poverty. These consumers seem to create their own, unique system of practices, strategies, and logics to manoeuvre life at the threshold. In this vein, they defy notions of vulnerability but demonstrate that they are active and resourceful participants of society. The implications are potentially far-reaching in that they draw our attention to the usefulness, indeed appropriateness, of certain types of social support that is primarily conceived via financial measures.

Original/value

The ethnographic approach allowed insights about consumers at risk of poverty at an unprecedented level of depth. While consumer researchers have a good understanding of individuals living at extreme levels of poverty (Hill 2001; Hill & Gaines, 2007), little is known about the situation of about a fifth of the EU population that lives at risk of poverty or social exclusion. For public policy makers, these insights are crucial in planning and implementing social measures and conceiving thresholds to guide the distribution of social support. For retailers, results can help to finetune their CSR activities in regards to social engagement, donations, or communication with consumers and communities (Louis et al. 2019).

Research limitations and outlook

Results are preliminary so far as field research is undergoing.

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Keywords*

Shopper behaviour, consumer behaviour, impoverished consumers, ethnography,

**DIGITAL SYSTEMS FOR URBAN RETAILERS (DSUR) IN FRANCE. EMPIRICAL
REVIEW AND ANALYTICAL TYPOLOGY**

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Abstract:

New retailing channels and formats have modified shopper behaviors and tend to encourage consumers to purchase outside of city-centers. Hence, many cities have high store vacancy rates while retailers' revenues decrease and commercial leases increase. Meanwhile, becoming "phygital" seems to be a necessity for retailers as consumers are more and more combining online and offline business formats. As such, stores in urban environment need to adapt their strategies. Encouraged by political nation-wide initiatives, many Digital Systems for Urban Retailers (DSURs) — from private and/or a public instigation — have emerged to stimulate urban retailers. Based on an empirical investigation, this paper presents an analysis of these DSURs and of their impacts.

Keywords: digital systems, urban retail, phygital, city center, retailing channels

Introduction and managerial background

This research intervenes at a time when the worlds of mass distribution and commerce seem to be undergoing reinvention and digitization (Verhoef, Kannan and Inman, 2015; Belghiti and Badot, 2016). In the digital era, we have witnessed the increasing power of e-commerce, m-commerce, distribution and cross-channel communication methods that triggered the advent of new consumption patterns. Setting out from this premise, the ongoing “commercial revolution” (Moati, 2011) that we are experiencing makes us understand that a valid question emerges regarding physical stores as they are to be directly impacted by these transcending digital evolutions. According to Badot and Moreno (2016), retail spaces that are still capable of operating are those whose shopping experiences are, as a first step, differentiated and of high quality or experiential, that is to say “highly emotional and participative”. But would these tangible experiencing strategies be enough, in the long run, to fully content customers of the 4.0 society? In 2018, all over France, the commercial vacancy rate was up to 11.9% according to Procos¹, as compared to 7.2% in 2012 and 9.5% in 2015. This phenomenon is all the more true in smaller cities. As such, retailer’s revenues decrease, because of the decline in customers and an overall increase in commercial leases.

In her PhD research, Belghiti (2016) notices that consumers are no longer satisfied by online or offline shopping experiences only but require and practice these two forms of shopping, a reality described as “phygital”. Thus, integrating digital elements to his physical shop, the retailer can reunite these two dimensions (Claes, Quartier and Vanrie, 2017). “Phygital” thus echoes with the recognition that “physical retail is not dead”, but that getting digitized has however, become a necessity (Belghiti and Badot, 2016).

For two years now, the French government has decided to tackle the problem of commercial vacancy rates in city-centers, including digital measures to modernize the activity of small retailers in order to make them more compliant with new consumption patterns. That stance marked the emergence of various DSURs on the territory that wish to reinvigorate inner-city retailers through digital technologies. Today, these digital tools are promoted and developed locally all over the country. Therefore, regions, Chambers of commerce, City authorities, elected local officials and retailers associations implement DSURs as a way to help their businesses recovering, regaining traffic of customers.

Theoretical contributions

From a theoretical point of view, a multitude of platform types exist and have been identified in the academic literature: market platforms of goods and services, of product developments, of industrial productions, etc. and raises a lot of enthusiasm in the context described above.

The emergence of DSURs that integrate local retailers and the conditions of their implementation and development doing so has not been covered much by academic literature. Through this doctoral research, we wish to expand the academic literature on digital platforms by integrating a typology of the effects we identified regarding the implementation of DSURs within cities, to contribute to the literature on commercial urban development, and to submit a rational and rigorous analysis of DSURs.

Objectives and research question

The objective of this research is to contribute to the literature on digital platforms, as we have little information on these at a territorial level or on their organizational designs. Also, we

¹ The federation for the promotion of specialized trade

seek to know more about how urban retailers can use them and what insights we can learn from it? In addition, the stakes behind the implementation of such initiatives remain unknown. The following question therefore arises:

What are the impacts of the adoption and of the use of DSUR?

Epistemology and research protocol

In order to study DSURs within city-centers, we adopt a phenomenological approach. This approach will allow us to probe the depth of the phenomenon we study and is of importance in the way that the validity of a phenomenological research is directly linked to the researcher's writing and to the quality of the descriptive data he collected (Morais, 2013). It is therefore through one's subjective experience that the phenomenological approach linked to the lived experience makes sense. Indeed, the goal is not the generalization of results but the comprehensive exploration of a phenomenon *in situ* and *in tempo*.

Formerly, few researches have been conducted regarding DSURs at the level of city centers and local stores. Therefore, an inductive research design has been selected in order to reach a robust data collection and analysis but, as an inductive process, the selection of DSUR has not been based on a quantitative segmentation. Hence, the following pair has been considered: DSUR/city or town. To date, 58 semi-guided interviews with DSUR operators and/or city authorities' officers have been conducted, as well as 10 other interviews with urban retailers that use one of the DSURs identified in the research. The data analysis led to a cross-category analysis of the corpus.

The reading of an academic literature related to the research topic during the phases of data collection and analysis is supposed to enable the researcher to pre-evaluate the relevance of the emerging findings. Here, the Spiggle process (1994) has been strictly respected so very few literature has been mobilized during the interview phase. As explained by Gioia, Corley and Hamilton (2013), "knowing the literature intimately too early puts blinders on and leads to prior hypothesis bias (confirmation bias)". Alvesson and Kärreman (2007) warned about the risk of transitioning from an inductive research protocol to an abductive one and the risk to adapt theory to data collection and analysis and vice versa. Therefore, the academic literature is only mobilized at the end of the process in order to discuss the findings and the contributions presented.

Once each case analyzed, a multi-case 1st-order analysis has been conducted where respondents' words have been respected with "little attempt to distill categories" (Gioia *et al.*, 2013). 60 themes have emerged. Then, in the 2nd-order analysis phase, the number of emerging themes has been reduced from 60 to 38. After, according to Gioia *et al.* (2013), the process led to "distill the emergent 2nd-order themes even further"... to 7 and finally, to 4 "aggregate dimensions" (see data structure, Appendix 1).

Research findings

Whether born from private and/or public initiatives, we have studied the adoption and use of DSURs in France and identified four major insights:

- 1- Effects linked to the context DSURs develop in: this context presents obstacles and opportunities originating in the attitude of retailers regarding digital tools, and their pessimism towards the novelty of DSURs. In this respect, they result to be poorly motivated by the digital transformation they are offered, because of a lack of

knowledge, interest, but also money and time to invest. Moreover, because DSURs suffer from a low level of awareness, they show difficulties entering the market and trying to get more legitimacy: how to trust and invest in a digital system whose effects have not been established yet? How to convince urban retailers to adopt one of them when they are strongly skeptical and disappointed by the uses of the DSURs?

- 2- Effects linked to operational management decisions, relating to supporting retailers after they adopted a DSUR, and linked to communication expenses that are invested to raise awareness about the DSUR after implementation. The findings figure out that many retailers are left without any monitoring once they adopted a digital system. Thus, it is obvious that the deficiency of maintenance directly impacts the use of DSURs by local retailers. In addition, the lack of financial support in communication and promotion by DSURs operators and local authorities leads to a low level of awareness by the shoppers and a low level of motivation by the retailers.
- 3- Effects linked to territorial governance and local authorities. Some effects appeared based on whether private and/or public stakeholders cooperated in implementing a DSUR. So, cooperation between public and private bodies shows positive effects on retailers' attitude and good effectiveness of DSURs. On the one hand, retailers adhere more massively to the tool when it is supported by public sector, as when, for instance, DSURs implementation and free training sessions for retailers are supported by local authorities. Also, public authorities can be considered as a legitimate representative and messenger to reassure and to spread the digital transformation at a local level. In addition, political issues were identified at different stages of the establishment of DSURs: sometimes, projects are not fully implemented because of political struggles between local decision-makers or newly elected representatives. It also appeared that the adoption of some DSURs was more based on political motivations than efficiency seeking.
- 4- Effects linked to DSURs themselves appeared: in the very definition of their business models and within their value propositions, DSURs can show signs of misalignment with the needs and expectations of retailers. Indeed, the cost for adopting the DSUR is frequently perceived as much higher than what retailers expected. They consider the return on investment too low and too slow mostly because they don't have any clear vision of the concrete impact on the traffic creation or conversion rate.

Conclusion and practical implications

This research, under an inductive protocol, provides rich findings and we hope that with their analysis, we will contribute significantly to helping collectivities and other stakeholders in showing the first effects of digitizing retailers, at a local level. Even though DSURs are broadly implemented in towns and cities in order to help urban retailers to compete with e-commerce, few researches exist on the perceptions of the users and the assessment of their impacts. Consequently, the results of this research represent an empirical contribution.

Chambers of commerce, local authorities, retailers associations, retailers themselves... promote the use of DSURs at a local scale on a regular basis. Yet, they do so without fully anticipating the effects DSURs might have in the long run. So far, what we understand is that digitizing local retailers does not come without challenges given that many obstacles emerge at each step of the digitizing process.

These findings could enable public actors and DSUR operators to better master the design, the promotion of DSURs, and the shoppers and retailers expectations; a great challenge to contribute to the revitalization of city centers in France as well as in many western countries. In this context, a policy paper based on this research has provided recommendations to the Ministry of Economy and Finance in February 2020.

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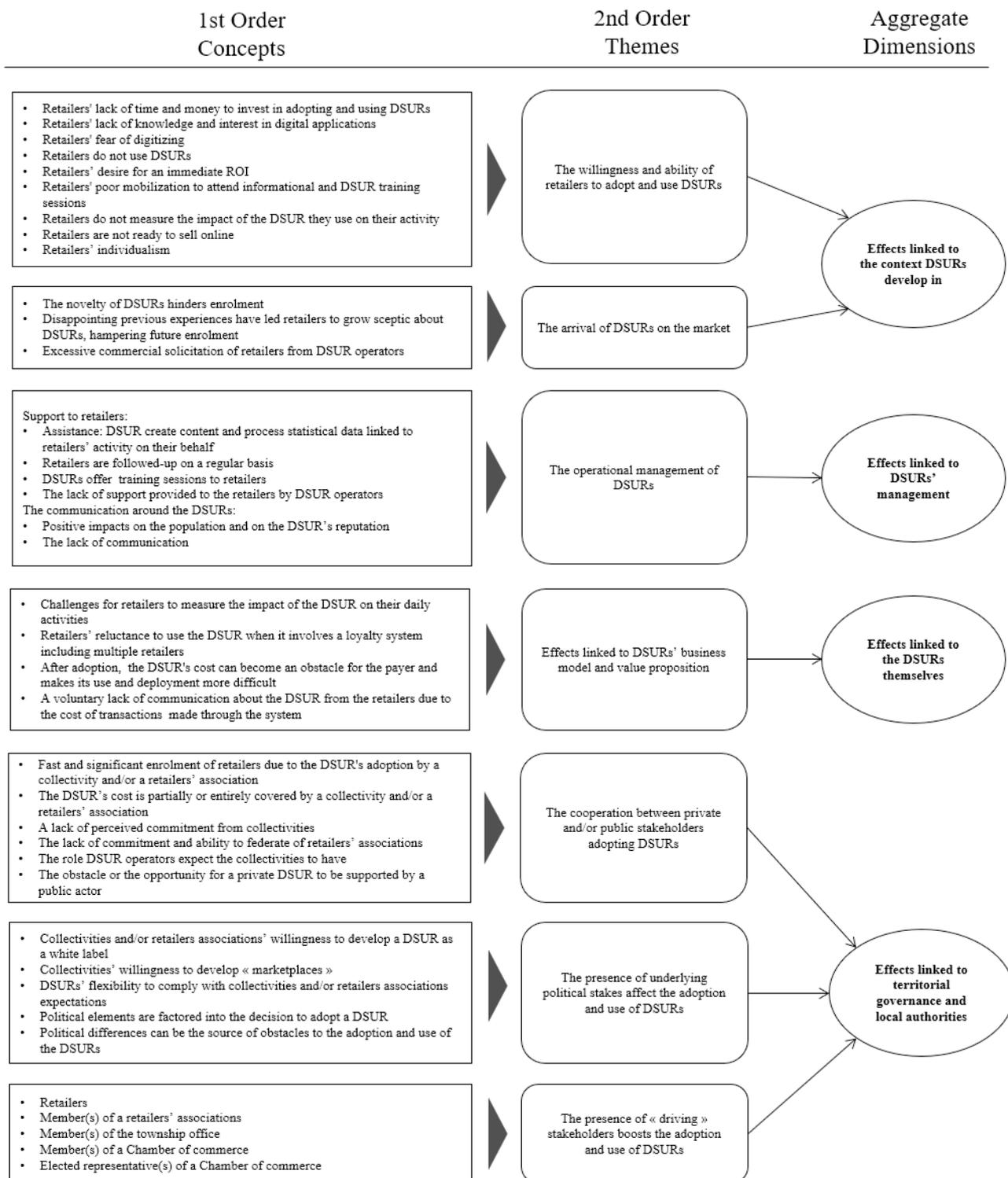
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Appendix 1: Data structure

Reproduced from Corley and Gioia (2004); Gioia, Corley and Hamilton (2013)





“PROVIDING DIGITALLY-TRANSFERRED CONDITIONAL ACCESS-PERMISSION: BENEFIT VS. SAFETY-CONCERN IN UNATTENDED HOME DELIVERY SERVICE”

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The change digitization brings into the business world but also to society, offers opportunities (e.g., service enhancement through technological innovations and/or sustainable use of resources) as well as threats (users’ data-security issues). Due to the increasing relevance of an efficient and sustainable “last mile” delivery-process, the integration of information technology is becoming highly important for research and suppliers. In center of interest is users’ perception of CEP (courier, express and parcel) service providers, especially when it comes to the delivery with the help of smart lock-systems (at the front-door or a parcel locker).

Hereby, our research refers of Privacy Calculus theory, focusing on users’ benefits and data-safety-concerns regarding their intention to provide digitally-transferred conditional access-permission in context of home- or parcel locker-delivery. By conducting an online survey (N = 299 participants), we show that especially in case of the access-permission to the private home, beneficial aspects as convenience and sustainability exceed users’ privacy concerns in the CEP service provider as well as users’ issue of trust in the (final) deliverer. Findings lead to meaningful implications for future research and for concrete possibilities for practical implementation. We argue for a stronger alignment within the communication-strategy regarding the ecological sustainability of using unattended home delivery services in practice. Moreover, a smart combination on aspects of convenience and likewise environmental protection might be possible. In this context, we call for further in-depth analysis on BEV (battery electric vehicle) vans and their saving potential of CO2 emissions in the course of inner-city-logistics use.

PRODUCT AFFINITY SEGMENTATION OF MULTICHANNEL GROCERY SHOPPERS APPLYING COMMUNITY DETECTION

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Introduction

Grocery retailers usually maintain complex information systems (IS) for capturing records about Customer Purchasing Behaviours (CPBs) in a cost-effective manner. Ensuring the productive use of the information gathered through loyalty cards offers great opportunities to improve targeted marketing campaigns. A deep understanding of underlying patterns in the stored information becomes an ever more complex and more challenging task, mainly because: *(i)* CPBs are generally diverse and dynamic; *(ii)* many entities come to play, such as products, customers and transactions (orders) and *(iii)* the amount of available entities is large and increasing constantly. Depending on the goals of the retailer (i.e., revenues, customer loyalty), it is possible to define different patterns of purchasing behaviours and target the appropriate groups to optimise the efficiency of marketing actions.

The task of analysing CPBs becomes ever more challenging with the introduction of online channels by grocery retailers (Biyalogorsky & Naik, 2003; Hernant & Rosengren, 2017). Introducing an online channel has been reported to display different effects in terms of customers' purchasing patterns (Ansari et al., 2008; Hernant & Rosengren, 2017; Konuş, Verhoef, & Neslin, 2008). Segmenting and profiling customers is an effective practice to gain a richer understanding of multichannel shoppers (Neslin et al., 2006; Verhoef et al., 2015). Several studies have segmented shoppers based on channel usage or preference (e.g. Nakano & Kondo, 2018; Peker, Kocyigit, & Eren, 2017). However, there is scarcity of research that takes into account information at the customer transaction and product level.

Purpose

Due to the large number of transactional records of grocery retail chains and mainly because CPBs are heterogeneous and diverse, companies direct their actions to segments of customers with similar preferences (behaviours), avoiding the cost to have a customized strategy for each customer. Our paper is motivated by the increasing complexity of shopping behaviour in the multichannel retail context, as well as by the opportunities provided by the online channel to targeted marketing campaigns. Building on those realities, we aim to show the value added of applying a community detection algorithm to identify grocery customer segments according to product affinity. Community detection, compared to other segmentation approaches, allows to take into consideration each customer's purchases at the product/brand level.

Conceptual framework

Although it is possible to undertake customer segmentation employing a classical clustering approach, we alternatively suggest identifying customer segments applying a community detection (CD) algorithm. Community detection refers to the procedure of identifying groups of interacting vertices (i.e., nodes) in a network depending upon their structural properties (Kelley et al., 2012; Yang et al., 2016). As Javed et al. (2018) state, community detection algorithms would be very useful to identify users having similar behavior in e-commerce. Product affinity segmentation explores the links between customers and product baskets to identify customer segments, offering cross-selling and promotion opportunities to increase sales and profits (Zhang et al., 2019). By identifying shoppers having the same patterns towards purchasing some products, managers can improve product recommendation systems in online channels (Krishnamurthy and Wang, 2000; Ju and Xu, 2013).

CD algorithms simultaneously exploit the pairwise similarities used in the classical clustering approaches, and the topology of cases. Such methods are powerful since they not only take into account the interaction between objects, but also the flow of information that travels through the topological structure. A multitude of dimensions can be included into the model, depending on the application of community detection (Javed et al., 2018). In the retail context, transactions are the main dimensions, which usually comprise information about customers, products and customer-product purchases. Thus, the approach proposed and detailed in this paper starts from transactional data for modelling the interaction among customers by means of a weighted complex network. Additional variables are then used for characterizing the obtained communities.

The main stages to implement customer segmentation through a CD algorithm are as follows:

Stage 1: (Purchasing data transformation). In this stage we capture the information attached to customers (i.e., customer, product and order information) and the database is transformed by considering a specific customer purchasing representation from the original records. Also, the data is pre-processed for discarding irrelevant transaction records, through the data gathering, stratification and cleaning steps.

Stage 2: (Customer network construction). This stage is devoted to determining the semantics of edges, nodes and layers in the complex network, while quantifying the interactions between each pair of customers.

Stage 3: (Customer community detection). Separate the customer into communities by applying community detection algorithms.

Stage 4: (Customer community evaluation and characterization). The analysis is focused on the customer-product characteristics in each customer segment, which allows evaluating

how compact a certain community structure is, or the number of obtained clusters depending on the goals. The characterization is mainly based on the specific products/brands or product categories for each community.

Design/methodology/approach

The main research challenge was to define the similarity of customers in this context. Customers are presented as bags of orders. First, we need to define a similarity between two orders, next we need to define the similarity between two bags of orders. Each order is considered a multi-set in which the multiplicity of each element is the number of a purchased product in a specific order. We introduce the similarity measure *MSJaccard*. This measure allows quantifying the overlapping degree between two orders o_i and o_j that belong to different customers and is based on Jaccard index (see Equation 1). *MSJaccard* computes the ratio between the intersection to the union of orders, where $multi_{p_k}(o_i)$ represents the multiplicity of the product p_k in the i -th order.

$$MSJaccard(o_i; o_j) = \frac{|o_i \bar{\cap} o_j|}{|o_i \cup o_j|} = \frac{\sum_{p_k \in o_i \cap o_j} \min(multi_{p_k}(o_i), multi_{p_k}(o_j))}{\sum_{p_k \in o_i \cup o_j} \max(multi_{p_k}(o_i), multi_{p_k}(o_j))} \quad (1)$$

We suggest a new similarity based on the order similarities and frequencies of product purchasing. The new MI measure considers each bag as a point set or a subset of a high-dimensional space. Therefore, a similarity between two bags is defined as an aggregation of the similarity between instances of each bag. We start from the *MSJaccard* similarity to quantify the similarity between instances by using the expression $MSJaccard(o_i, o_j)$.

Equations 3-5 show the new measure (termed *MInteraction* similarity) where $BagSim(C_i, C_j)$ denotes the similarity between customer bags C_i and C_j based on the membership of the order o to the bag C , represented by $\mu_C(o)$. This membership value is obtained as a maximum instance similarity of the order o to the instances in the bag C .

$$MInteraction(C_i, C_j) = \frac{\min\{N_i, N_j\}}{\max\{N_i, N_j\}} \cdot \frac{BagSim(C_i, C_j) + BagSim(C_j, C_i)}{2} \quad (3)$$

$$BagSim(C_i, C_j) = \frac{\sum_{k=1}^{N_i} \mu_{C_j}(o_k^i)}{N_i} \quad (4)$$

$$\mu_C(o) = \max_{x \in C} \{MSJaccard(x, o)\} \quad (5)$$

By applying the *MInteraction* similarity measure we can obtain customer communities according to several features: (i) purchasing frequency or order numbers by customers, (ii) subset of products which tend to be together and (iii) bestseller products. Hence, it is expected we can gain more information for each bag while obtaining compacter communities from the complex network after the construction phase is done.

The customer communities were obtained by employing the multi-level Louvain community detection algorithm (Fortunato, 2010). We

performed the analysis using data from the loyalty card of a Spanish grocery retailer that had recently introduced the online channel. In order to capture fully the shopping patterns and coincide with the duration of promotional offers, we chose a two-week period, February 26, 2018-March 11, 2018. This period was also chosen as it did not contain any vacation period that could affect products' seasonality. Due to computational issues, the period of analysis cannot be longer; notwithstanding, we tested the stability of the results by performing the analysis in subsequent 2-week periods. The 2-week period and it is useful in managerial terms as it allows supermarket managers to analyse behaviours and take actions in the short term.

Findings

One issue that emerged during the network construction stage is the presence of a large number of connections per object. However, it is unlikely that all connections are important. Many of these edges are spurious or weak associations (i.e., many of them do not necessarily imply a confirmed relationship between customers since they have a low weight). In order to remove some of the weak edges created by low coincidental purchases and improve the quality of our subsequent analysis, we established a minimum threshold δ that can be learned during the threshold estimation step. An edge between two customers was preserved if they have enough similar purchasing orders (i.e., $w_{ij} \geq \delta$). This threshold determines also indirectly the number of communities. A low threshold will result in a high dense network and a low number of communities. A high threshold will decrease the density and at extreme values, parts of the network will be disconnected, and communities will be discovered without applying a community detection algorithm. We choose as threshold the average value of customer similarity (equation 3) and experimented with the average value, a higher and lower value. The number of communities was found to be stable.

We found 6 customer communities based on product affinity and product buying frequency. Table 1 displays the *a posteriori* description of the groups looking at the size and volumes bought. The largest clusters are communities 1 and 5. Although these two clusters buy a similar number of products (35,785 for community 1, and 30,259 for community 5), they differ in the proportion of online/offline purchases, which is higher for community 5. Communities 2 and 3 are of medium relative size, and the smaller groups are communities 4 and 6. Although communities 4 and 6 are small, it is remarkable that the order size is much larger than in the other groups.

Table 1. Basic description of communities

	Communities					
	1	2	3	4	5	6
Number of customers	595	164	110	34	672	74
Number of products purchased offline	30,311	7,898	4,940	1,227	20,088	3,309
Number of orders	51	48	45	36	30	45
Number of products purchased online	5,474	3,976	2,903	577	10,171	1,546

drinks than expected (blue circles), but customers of community 4 are quite sensitive to promotions on drinks while customers of community 2 are not (red circles). The findings display significant differences regarding the proportion of private label product bought. Community 1 seems to be less keen of purchasing private label products. Although all customers buy more manufacturer brands within the category of house cleaning products this proportion is larger for community 4. Regarding the use of online versus offline channels, our data reveals the categories that are purchased online more frequently by each community, for example in the case of community 5 it is house cleaning products.

Original/value

This paper presents a product affinity segmentation of multichannel grocery shoppers applying a community detection algorithm. Analysing data for online and offline purchases, our study identifies communities of shoppers based on the subset of products bought together, the products bought most often, and the shopping frequency. We also show that the behaviour of the communities differs on total volume, use of online vs offline channel, promotion sensitivity, and preference for manufacturer vs. retailer brand. Previous segmentation studies of shoppers have been mainly based on clustering algorithms (e.g. k-means, latent segmentation). While these studies are useful to identify groups based on the average shopping patterns during a given period, such as RFM (recency, frequency, monetary), they are not able to produce segments based on the individual products bought together. To the best of our knowledge, community detection algorithms based on customers as bags of orders has not been previously applied to segment shoppers in a multichannel context.

Practical implications

Our findings suggest interesting implications for multichannel grocery retailers. By applying community detection algorithm based on Multiple interaction similarity we have been able to show the diversity of shopping patterns at the level of products/brands bought together in a shopping trip and profile the resulting segments in terms of shopping preferences. Our approach is able to profile segments based on purchase behaviour at the product/brand level, unlike other clustering algorithms that provide information in more aggregated ways. For example, retailers can use this product affinity segmentation approach to target specific groups of customers for the recommendation of specific products/brands. Moreover, as we are able to profile the communities on volume purchased, channel preference, promotion sensitivity and brand preference, marketers are able to identify which market segments are more profitable, more likely to buy online/offline, more loyal to the retail brand, and more likely to respond to promotions. In this way they can optimize their marketing efforts by making more accurate and efficient product recommendations and promotions.

Research limitations and outlook

There are some limitations of this study based on the data analysed. Our research is based on transactional data of a single retailer, which can pose some bias on the results. Moreover, this retailer has a short history of online sales, therefore the finding related to preference for online vs. offline channel should be taken cautiously. We were not able to use sociodemographic data linked to the loyalty card due to high number of incomplete cases or unreliability of age and gender data due to different members of the family using the same card.

Future research could further explore the differences between online and offline purchase behaviour of multichannel shoppers by applying multi-layer detection algorithm. The data representation as a multi-layer network, where each layer is a channel, would offer useful insights of multichannel shoppers for retailers.

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Keywords

Community detection, product affinity, multichannel shoppers, grocery retailing.

Acknowledgement

This work was financed by the Spanish Ministry of Science, Innovation and Universities, Spanish State Research Agency (Research Grant ECO 2017-83051-R).

WHY DO CONSUMERS USE INTERACTIVE TECHNOLOGIES IN STORES? A USES AND GRATIFICATIONS APPROACH

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Abstract

The study draws on a uses and gratifications perspective in a phygital context. In applying this perspective, this research explores and discusses the uses and gratifications that consumers obtain from digital devices in physical stores, especially self-checkout and interactive kiosks. It also seeks to provide a better understanding of why consumers use these technologies. A qualitative approach was adopted, with 20 in-depth interviews. The research findings identified four specific gratifications from interactive kiosks (enjoyment, flow, information-seeking and social interaction) and two common gratifications from interactive kiosks and self-checkouts (control and time saving). The research contributes to previous studies on the use of digital technologies in stores and has important managerial implications.

Keywords – Phygital, Uses and Gratification Theory, Interactive technologies, Self-checkout, Interactive kiosk

Introduction

Many retailers are now venturing into phygital and introducing digital tools into their physical stores (Hagberg et al., 2017). Phygital seems to be one of the priorities that has recently concerned both retailers and scholars and has been the subject of numerous studies in marketing (Fuentes et al., 2017; Mosquera et al., 2017). These works have explored the potential of interactive technologies to transform the shopping experience in stores and have highlighted their impact on shopping value. However, little is known about why consumers use interactive technologies in physical stores.

The present study addresses the aforementioned gap by examining the different motivations underlying the use of interactive technologies in stores. More specifically, we focus on the use of self-checkouts¹ and interactive kiosks in French stores. These technologies are being widely introduced by French retailers. However, according to the statistics, very few French consumers are willing to use them². To achieve the research objective, we employ Uses and Gratifications Theory (UGT). As underlined by Rauschnabel (2018), even though UGT has its limitations, it is still one of the most generally applied theories for investigating the adoption and use of technologies and services. Luo et al (2011) have shown that UGT is a useful approach for identifying usage motivations regarding interactive technologies. Similarly, Dolan et al. (2016) argue that UGT, a well-established theoretical perspective, provides valuable insights into interactive media and technologies.

This study provides a better understanding of the uses of and gratifications obtained from digital devices in physical stores. UGT has been applied in different contexts such as TV, the Internet and social media, but to our knowledge, never in a phygital context. On the managerial side, the study will help retailers to determine the critical motivations behind the success of interactive technologies. These motivations can be used in retailers' communications to attract potential users of these technologies.

The remainder of the paper is structured as follows. First, we present a literature review on interactive technologies and UGT. Second, the method for collecting and analyzing data is described. Third, the findings are presented and discussed. We conclude with theoretical and practical implications and lastly with the limitations of the study.

Literature Review

Phygital and Interactive technologies

Retail is seen as one of the sectors largely affected by phygital and digital transformations (Hagberg et al., 2017). The concept of phygital stems from the linkage of two realms: digital and physical (Moravcikova and Kliestikova, 2017, p. 149). It involves “hybridizing the physical (the point of sale, its products, etc.) and digital components (touch screens, connected mirrors, NFC cards, etc.) at the same time and in the same place” (Belghiti et al., 2017).

These digital components, also known as Self-Service Technologies (SST) are designed to facilitate transactions and allow consumers to produce a service independently of direct

¹ Nielson 2019 shows a significant increase in the use of self-checkout machines by brands, with 57% of French stores now equipped with self-service checkouts. Source: <https://banque.meilleurtaux.com/frais-bancaires/actualites/2019-septembre/les-caisses-en-libre-service-seduisent-de-plus-en-plus-de-clients-en-france.html> (consulted 18 February 2020)

² According to Samsung Smart Retail Barometer 2019, only 38% of French people believe that the presence of digital devices (interactive kiosks, self-scanning, self-check-out, virtual fitting screens, etc.) would encourage them to visit more stores. Source: <https://comarketing-news.fr/digital-le-second-souffle-des-magasins/> (consulted 21st February 2020)

employee involvement (Meuter, 2000). Consumers become active participants in the delivery of services rather than a passive audience (Prahalad and Ramaswamy, 2000).

Two streams of research have emerged from the SST literature: consumer adoption factors (Liljander et al., 2006) and the influence of SST on shopping experience and value (Blázquez, 2014; Curran and Meuter, 2005; Schramm-Klein et al., 2011). Various factors influence the adoption and use of these technologies, such as ease of use, perceived usefulness, perceived pleasure and trust in the seller (Demoulin and Djelassi, 2016; Foroudi et al., 2018). SSTs provide a range of benefits: autonomy, relational benefits, enjoyment and usefulness. However, they can also involve sacrifices, such as effort in use, lack of control, and risk regarding private data (Feenstra, Stan and Glérant-Gliksson, 2018).

Uses and gratifications theory (UGT)

Uses and gratifications theory (Katz et al., 1973) provides an appropriate theoretical basis for understanding why and how individuals actively seek the use of certain media to fulfill specific needs. UGT is one of the first approaches that considers the active role of consumers in the choice and use of media (Dolan et al., 2016). Consumers are seen as active gratification seekers interacting with media, rather than passive recipients (Eighmey and McCord, 1998). They act in a goal-oriented manner and actively choose the media they want to consume, driven by their individual needs and motivations (Rauschnabel, 2018).

Initially applied to understand user motivations in the context of traditional media (Blumler and Katz, 1974), UGT has increasingly become a relevant and a much-used theoretical framework in studies on the adoption of different technologies (Ray et al., 2019). It has been used in relation to the Internet (Luo et al., 2011; Eighmey and McCord, 1998), social media (Dolan et al., 2016; Lim and Kumar, 2019) and food delivery applications (Ray et al., 2019). These previous studies have shown that information seeking (e.g. information about a brand or a product), convenience (e.g. comfort, avoiding waiting time), incentive seeking (e.g. monetary incentives in the form of coupons, non-monetary incentives such as acknowledgement), entertainment, connectedness and social interaction seem to be important gratifications for web-based information technologies and systems.

Methodology

The objective of the research is to understand why consumers use interactive technologies in physical stores. We have chosen two types of technology: self-checkout machines and interactive kiosks which are the most widely implemented technologies by French retailers³. We used a qualitative approach involving in-depth interviews. We interviewed 20 consumers – 11 women and 9 men – aged between 20 and 45⁴. Respondents were recruited by means of snowballing. They were asked to share their motivations for using the two technologies in stores. Interviews took place at the respondents' home or workplace and lasted between 50 and 80 minutes. All interviews were recorded and transcribed in full. They were then coded separately by two researchers who processed by vertical (intra-respondent and intra-technology) and horizontal (inter-respondent and inter-technology) thematic content analysis (Miles and Huberman, 1994). After comparison of the researchers' interpretations, the codings were grouped by theme.

³ Nielson 2019 shows a significant increase in the use of self-checkout machines by brands, with 57% of French stores now equipped with self-service checkouts. Source: <https://banque.meilleurtaux.com/frais-bancaires/actualites/2019-septembre/les-caisses-en-libre-service-seduisent-de-plus-en-plus-de-clients-en-france.html> (consulted 18 February 2020)

⁴ This age group lies within the age range of connected people in France according to Digital Report France 2020 (Source: <https://wearesocial.com/fr/blog/2020/02/digital-report-france-2020>, consulted 18 February 2020)

Results and discussion

The discourse analysis identified **four specific gratifications** obtained from interactive kiosks (enjoyment, flow, information-seeking and social interaction); and **two common gratifications** from interactive kiosks and self-checkout machines (control and time saving).

Gratifications specific to interactive kiosks

Hedonic gratification: The first hedonic gratification (**enjoyment**) refers to the extent to which the activity of using a medium is perceived to be enjoyable (Li et al., 2015). Many respondents reported that they used interactive kiosks for reasons of enjoyment. For them, these technologies are fun, pleasant and exciting. “*It is an enjoyable experience when using an interactive kiosk...It's cool, and it's fun*” (Anas, 27), “*I'm satisfied when I use interactive kiosks that make my life easier, I feel happy, I feel good, my shopping is going well*” (Léa, 21). This finding is in line with the work of Li et al. (2015) and Xu et al. (2012), which provide evidence that individuals use interactive media for hedonic gratification. The second hedonic gratification (**flow**) refers to a state of optimal psychological experience, or the most enjoyable experience possible, when a person is unconsciously engaged in an activity (Novak et al., 2000). In the state of flow, people are so involved in the activity that they become intensely absorbed, lose the sense of time, and nothing seems to matter to them (Csikszentmihalyi, 1990). Respondents stated that they use interactive kiosks to have an optimal in-store experience. “*I went to a sports shop to buy running shoes, I used an interactive kiosk with treadmills to try shoes, this made me feel like I was running outside, I felt the pleasure of being immersed in the brand's universe*” (Valentine, 45). The result is consistent with previous studies on other technologies such as television (Sherry, 2004).

Utilitarian gratification: The first utilitarian gratification related to the use of interactive kiosks is **information seeking**. This refers to the use of a technology or medium to seek out information or to self-educate (Whiting and Williams, 2013). In our study, interviewees reported that they use interactive kiosks in stores to find information about products (available sizes, colors) or about promotional offers. “*I use interactive kiosks to get the information I need, see if my size is in the store, if I want to buy too many items, see if there are any promotions...*” (Pauline, 22). The result is consistent with previous studies in other contexts such as the Internet (Papacharissi and Rubin, 2000). Information seeking was found to be one of primary motives spurring individuals' use of the Internet.

Social gratification: **Social interaction** has been identified as the social gratification of using interactive kiosks. This gratification refers to the extent to which a medium “is used as a communication medium to interact with others” (Gan and Li, 2018, p. 309). According to some interviewees, interactive kiosks allow them to share their experiences with family and friends. “*Interactive kiosks in the clothing shop allow me to try articles and share pictures with friends via social networks*” (Anas, 27). This is consistent with the findings of Lim and Kumar (2019), Jackson and Wang et al. (2013) and Zhang et al. (2016) in the context of networking sites.

Common gratifications between self-checkout machines and interactive kiosks

Utilitarian gratification: Our study shows that **control** is the utilitarian gratification sought from the use of self-check machines and interactive kiosks in stores. According to Cyr et al. (2009), control refers to the extent to which an individual can choose the timing, content and sequence of a communication. Users may experience a sense of control over a website, for example, when they can select the language or use a search engine to find the information they want. Interviewees mentioned that these technologies allow them to control their transactions and make them clearer. “*For example, when I use a self-checkout machine, there is clarity in the transactions, for example you can see the prices as you scan the product, maybe it reassures me and I have the impression that I can control my expenditure more effectively*” (Sophie, 29).

“I use interactive kiosks because it gives me a feeling of control and autonomy, I can control it, I can individually watch what I want to buy” (Inès, 25). This finding is in line with the work of Shao (2009), which showed that control encourages individuals to use a medium.

Temporal gratification: Time saving constitutes the temporal gratification of using self-checkout machines and interactive kiosks in stores. According to (Jeng, 2016), time saving enables consumers to reduce the time and energy they expend buying a product. Many interviewers reported that they use self-checkout machines or interactive kiosks to save time in shopping, especially time spent queuing. “When I don't have too much time, I tend to use a self-checkout machine, especially when I don't have many things to buy, it saves time” (Julie, 44).

“I use an interactive kiosk because it saves time.., Instead of going around the whole store, I can just swipe the screen and I can have an overall idea of what I can find in the store and make a choice based on this device” (Pauline, 22). This finding is consistent with results of Yeo et al. (2017), who argue that time saving is positively related to the convenience motivation and post-usage usefulness of a medium.

The tables below summarize the results of the two digital devices

Table 1: Gratifications specific to interactive kiosks

	Interactive Kiosks
Hedonic gratification	Enjoyment, Flow
Social gratification	Social interaction
Utilitarian gratification	Information seeking

Table 2: Common gratifications between interactive kiosks and self-checkout

	Interactive Kiosks	Self-checkout
Utilitarian gratification	Control	
Temporal gratification	Time saving	

Conclusion

The research findings identified four specific gratifications obtained from interactive kiosks (enjoyment, flow, information-seeking and social interaction) and two common gratifications from interactive kiosks and self-checkout machines (control and time saving). The study significantly contributes to the literature on UGT and phygital. Our findings provide managerial pointers for retailers. Understanding the different reasons for the use of self-checkouts and interactive kiosks would enable retailers to choose between these two technologies in terms of investment. In other words, it will allow retailers to adapt the choice of technology to be implemented with a view to meeting consumers’ needs: equipping a store with interactive kiosks would provide more gratifications for the consumer than equipping it with self-checkout machines. From the study, retailers can learn that hedonic, utilitarian, social and temporal motivations are critical motives behind the success of interactive kiosks. Consequently, they should focus and communicate on these four aspects to encourage their frequent use and fulfill consumers’ needs. By communicating in relation to the gratifications that consumers obtain from using interactive technologies, retailers might also attract potential

users of these technologies, especially reluctant consumers. This study is not without its limitations. First, only 20 consumers were interviewed for the two technologies, and it would be worthwhile carrying out additional interviews to obtain more detailed results. Second, as the current study is qualitative in nature, a quantitative study would be fruitful for identifying the antecedents and consequences of the gratifications identified in this research.

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“FROM OWNING TO RENTING THROUGH RENTAL-COMMERCE WEBSITES”

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Ownership and non-ownership can be perceived as both an advantage or as a disadvantage by consumers. Looking at the literature, it can be stated that there are opposing theoretical approaches, e.g. the property rights theory as well as the theory of perceived ownership and the endowment effect that show the varying relevance of ownership for consumers. With a view to current consumer studies, especially the sharing model of rental-commerce, i.e. renting products from website retailers, has recently become increasingly popular among both companies and consumers. When engaging in rental-commerce, consumers pay a contractually-agreed price for the duration of use monthly and can then use the product to its full extent without owning the proprietary rights of the product. The participation in rental-commerce is here used to explain and investigate the idea and feelings of ownership, so that this study is intended to provide information on when consumers can do without own possession and which determinants play a role in the decision making process to use products temporarily rather than to own them.



“USING NLP TO INVESTIGATE CONSUMERS’ EXPECTATIONS REGARDING FOOD RETAIL”

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Anne-Cécile Gay (University Bretagne Sud Foundation)

Purpose

This study investigates the changes in consumers’ expectations regarding the players in the food distribution sector using the data collected on a citizen consultation platform regarding the issue of "Eating better".

Design/methodology/approach

Nearly 6,000 propositions were examined using natural language processing methods based upon machine learning and deep learning.

Findings

Results indicate that consumers take an increasingly critical look at the sector and make demands that go beyond the sector core business. Consumers expect retailers to be more than just intermediaries, use their power, and commit to the great societal causes. The issue of digital technology is absent in this context.

Research limitations/implications

The data collected are focused upon one question only, "How do we eat better?" This framework draws attention to the various spheres consumers operate in, but a more general enquiry regarding the future of the distribution sector could unveil knowledge about other issues.

Practical implications

The managerial implications relate to the issue of consumer satisfaction. At a time when retailers find it difficult to generate growth, the findings provide another view of the direction retailers could take to renew their offering. Digital technology may be a powerful support for retailers' actions, but it is not an end.

Originality/value

The originality lies in the nature of the data used and the processing methods. Citizens, rather than consumers, are addressed. The study uses the techniques of machine learning and deep learning that enable a finer-grained analysis of large volumes of data and produce generalizable results.

ONLINE BEHAVIORAL ADVERTISING: BENEFITS AND RISKS OF DATA-DRIVEN DIGITAL ADVERTISING

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Introduction

Technology allows firms to target consumers based on their general interests thanks to the analysis of the editorial content of the web page on which the ad would be displayed (Goldfarb and Tucker, 2011). Furthermore, recent developments in online tracking and profiling technologies allows the targeting and personalization process in real time while a user browses the Internet (Moore et al., 2015; Sinclair, 2016).

Thus, to personalize and target advertisements firms can use data collected through the online behaviour of users. Researchers identify this phenomenon as the so called *Online Behavioral Advertising* (OBA). In literature, there are several definitions of OBA, but all of them identified two common characteristics: the monitoring and tracking of consumer online behavior and the use of data collected to target ads (Boerman et al., 2017; Varnali, 2019).

In a nutshell, this type of advertising is based on tracking users in order to make insights about their potential interests and convey relevant and personalized advertisements related both to the preferences of the users and their online behavior.

The theoretical background of OBA research is highly fragmented. The most used theories, that focus on the antecedents and mediation variables of the OBA, refer to the *persuasion knowledge model* (Van Noort et al., 2013; Ham and Nelson, 2016), the *psychological reactance theory* (Tucker, 2014; Aguirre et al., 2015; Bleier and Eisenbeiss, 2015a and 2015b), the *privacy calculus theory* (Gironde and Korgaonkar, 2018); the *theory of uses and gratifications* (Sutanto et al., 2013; Ozcelik and Varnali, 2019) and the *information boundary theory* (Sutanto et al., 2013).

Many studies focus on the effects of the OBA and how to measures acceptance and resistance to the OBA (McDonald and Cranor, 2010; Ur et al., 2012; Smit et al., 2014; Boerman et al., 2017), but the perceptions about the OBA seem to be divergent. On the consumers' perspective, some researches seem to see benefits in online targeted ads (McDonald and

Cranor, 2010; Ur et al., 2012), while most seem to be skeptical, finding this technique invasive especially as far as individual's privacy (Ur et al., 2012; Smit et al., 2014).

Literature state that the OBA is characterized by a continuous contrast between benefits and risks. The OBA makes advertisements more relevant to consumers who, seeing a relevant and personalized ad for them, are less likely to avoid the advertising. Conversely, individuals consider the collection and use of personal data as an invasive tactic that leads to the rise of negative perceptions namely in terms of the loss of privacy (Moore et al., 2015; Phelan et al., 2016; Summers et al., 2016; Varnali, 2019). Specifically, the lack of control over personal data and the loss of privacy are considered the main concerns on the acceptance and effectiveness of the OBA (Turow et al., 2009; McDonald and Cranor, 2010; Baek and Morimoto, 2012; Ur et al., 2012; Lambrecht and Tucker, 2013; Van Doorn and Hoekstra, 2013; Yang, 2013; Smit et al., 2014; Lee et al., 2015; Moore et al., 2015).

According to ethical problems in marketing studied by the *acquisition-transaction theory* (Baek and Morimoto, 2012), the likelihood of a consumer purchasing a product or service depends on the comparison between perceived benefits and perceived risks and costs (Baek and Morimoto, 2012). Therefore, it becomes crucial to understand how and in which measure consumers value both the benefits of the OBA (relevance, credibility, perceived usefulness) and its costs (privacy concerns) in order to accept or avoid the OBA. Consequently the acceptance or the avoidance of the OBA will affect consumer's actual purchasing behavior.

Purpose

The research aims to investigate how individuals can be persuaded to purchase a product or service through repeated and personalized messages. Specifically, the study aims to identify the potential contents able to provide value for individuals, and therefore capable of influencing them. Thus, it may result in a behavioural intention to purchase the products communicated through the online behavioural advertising. In addition, the research focuses on the role of privacy concerns in terms of affecting avoidance or adoption of this new type of advertising.

Finally, the end purpose of our work is to come out with a structural equation model, which can help researchers and practitioners to better understand shopping behavior in the online retailing setting as far as the potential benefits and risks of the online behavioral and data-driven digital advertising.

Conceptual framework

Our conceptual framework bases on the following hypothesis (see Figure 1):

H1: The higher the level of relevance of the OBA, the higher the level of acceptance of the OBA.

H2: The higher the level of credibility of the OBA, the higher the level of acceptance of the OBA.

H3: The higher the level of perceived usefulness of the OBA, the higher the level of acceptance of the OBA.

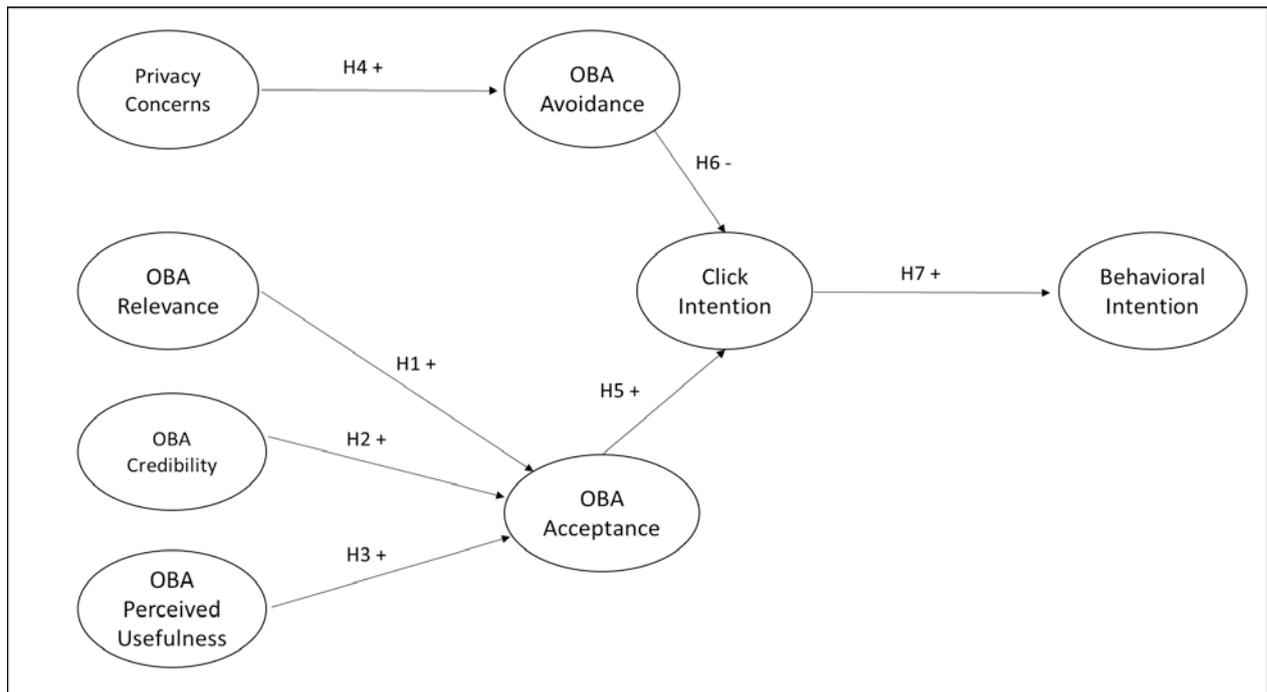
H4: The higher the level of privacy concerns about the OBA, the higher the level of avoidance of the OBA.

H5: The higher the level of acceptance of the OBA, the higher the level of click intention on the OBA.

H6: The higher the level of avoidance of the OBA, the lower the level of click intention on the OBA.

H7: The higher the level of click intention on the OBA, the higher the level of behavioral intention to purchase the product offering promoted by the OBA.

Figure 1 Conceptual framework



Methodology

Sample

To test all the hypotheses, we used a cross-sectional data analysis based on data collection using an online questionnaire with the belief that consumers who surf the Web represent the most suitable target for the research objectives. In fact, those who are used to surfing online are most likely more familiar to new modes of digital communication. We requested them to answer to a structured questionnaire after being subjected to a visual stimulus, which represented an example of online behavioral advertising. A total of 128 subjects were interviewed.

Procedure

First, we subjected each respondent to a visual stimulus (see Appendix – Figure 3) representing an example of online behavioral advertising associated with the decision-making process of searching for a product on a website of a dealer of clothes, apparel, shoes and accessories.

After the stimulus, shoppers answered to questions regarding their attitude toward the online behavioral advertising such as relevance, perceived usefulness and credibility of this type of advertising.

Furthermore, considering the goals of our research, it was necessary to measure both the consumers' level of privacy concerns and their intention to accept or avoid the OBA. Finally, we requested respondents to answer to questions regarding their intention to click to the ads and their actual intention to purchase the product sponsored by the OBA.

Measure

We measured all the variables considered with multiple-item scales, with the exception of the Click Intention, with Likert measurement scale. Specifically, all the scales used in the online survey come from previous research about shoppers and advertising theories and, once translated into Italian language, were adapted for our model and measured from 1 (disagree) to 7 (agree).

Specifically, *OBA Perceived Usefulness* considered four items adapted from Tam and Ho (2006), *OBA Relevance* was measured through eight items adapted from Laczniak and Muehling (1993) and *OBA Credibility* considered three items adapted from Tsang et al. (2004). Furthermore, the level of *Privacy Concern* was measured through five items adapted from Bleier and Eisenbeiss (2015a) and Dinev and Hart (2006), the *OBA Acceptance* considered a two-items scale adapted from McDonald and Cranor (2010) and Turow et al. (2009) while the six-items scale of the *OBA Avoidance* was drawn from Cho and Cheon (2004) and Speck and Elliott (1997). Finally, the *Behavioral Intention* to purchase the product communicated by a personalized advertising was measured by three items adapted from Taylor et al. (2011) while the *Click Intention* considered only a single item derived and adapted from Yoo (2007).

Findings

We used a structural equation modelling approach (SEM) with Partial Least Squares (PLS) regression method and software SmartPLS 3.2.9 to test the research hypotheses.

For each construct, except for Click Intention¹, the adequacy of the individual items and the composites were assessed by measures of reliability (Santos, 1999), convergent validity (Anderson and Gerbing, 1988) and discriminant validity (Fornell and Larcker, 1981; Beatty and Ferrell, 1998).

First, we tested reliability using Cronbach's Alpha (Santos, 1999) and eliminated the items that would cause the worsening of the scale (all values are higher than the minimum acceptable value of 0.70, see Appendix - Table 1). Secondly, to test the convergent validity of our measures, we examined the significance of factor loadings (Anderson and Gerbing, 1988) and the composite reliability. Furthermore, the discriminant validity was evaluated by comparing the extracted variance (AVE) with the square of the correlation between the two latent variables considered (Fornell and Larcker, 1981). All the result indicates that the measurement model has adequate reliability, convergent validity and discriminant validity (see Appendix - Table 2).

As suggested by Hair et al. (2011) and Ramayah et al. (2016) we measured R squares (R^2) for all the latent variables in order to determine the goodness of the structural model. The overall fit of the structural model is good with all the fit indexes in line with the recommended values (see Appendix - Table 3).

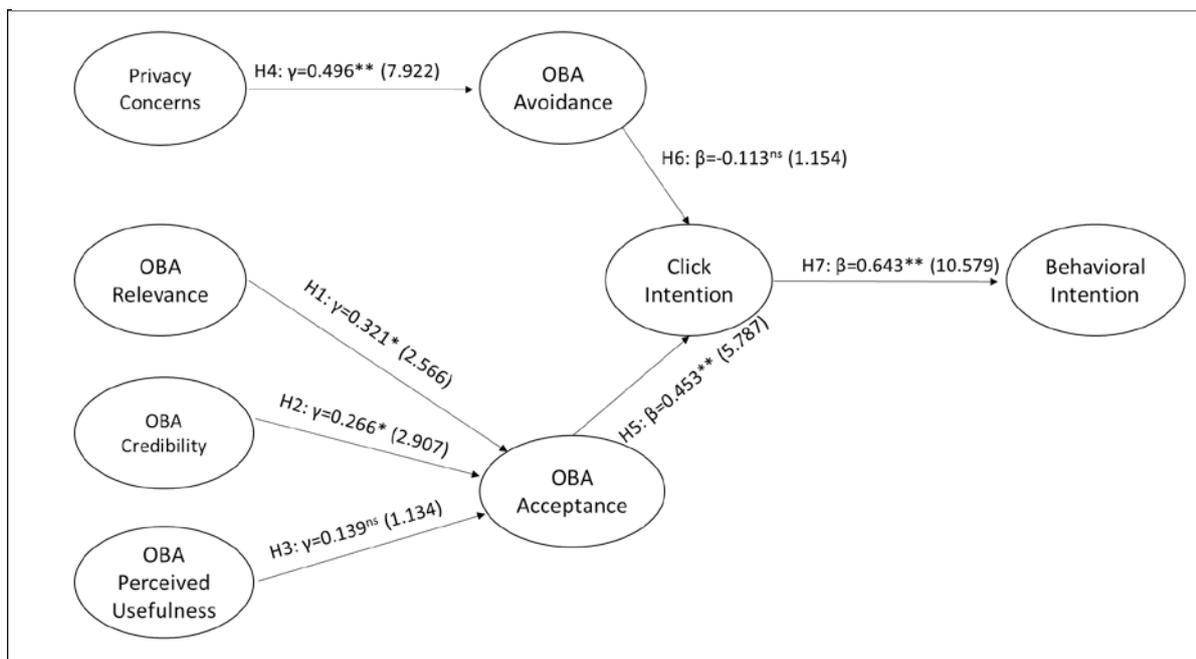
¹ The value of single-item constructs has been debated in literature, however a single-item constructs were found as good at capturing the nature of the phenomenon in question (Gardner and Cummings, 1998).

The results of the path analysis are shown in Figure 2 with all the path coefficients (intensity and direction of relations) and the significance (t-value) for each of them.

Discussion of the results

Results allow us to support the majority of our hypothesis, except for H3 and H6 (see Appendix - Table 4). Specifically, the final SEM allows us to confirm the evidence of a positive and direct effect of the relevance (H1) and the credibility (H2) of the contents promoted by the OBA on the acceptance of the personalized advertising. This results in a more click intention rate (H5) and consequently in a positive behavioral intention in terms of actual purchase behavior (H7). In addition, the model confirms how the consumers' privacy concerns about data-driven advertising positively affect the intention to avoid the adoption of OBA (H4) resulting in a lower level of click intention rate (H6). Despite the negative effect of OBA Avoidance on Click Intention, this ultimate relationship is not statistical significant. One possible justification might come from the *Privacy Paradox*: although people say they care about their privacy and are not willing to share their information, actually they give their data in exchange for small benefits or for convenience (Norberg et al., 2007). Therefore, although people say they are opposed to the OBA because of privacy risks, people express the opposite and click on the advertising.

Figure 2 Structural Model



Note: **: p-value<0.001; *: p-value<0.01; ns: p-value>0.05

Contributions and Implications

Our research may contribute to advance the state of knowledge about personalized and data-driven digital advertising and its application in the new online retail environment. Prior research came up with theoretical frameworks that explain antecedents of OBA focusing only on ethical issues in marketing (Boerman et al., 2017) or only on the effectiveness of a single OBA campaign or how to create a successful advertising campaign (Varnali, 2019).

Literature identifies factors controlled by advertisers and factors controlled by consumers in order to create comprehensive theoretical frameworks of the effectiveness of the OBA. However, besides being complex models, no study focuses on the intended or actual behaviour of shoppers. Specifically, any research apply a structural equation modeling approach in order to identify the antecedents of the actual behaviour of individuals in terms of actual purchases of products or services promoted by OBA.

Filling the gap in the existing literature, the research, through a SEM approach, seeks to build up a simplified model that considers both the benefits (relevance, credibility and perceived usefulness of personalized online behavioural advertising) and the risks (privacy and ethical concerns) of the OBA.

According to prior studies, our research demonstrates how OBA is a controversial type of advertising. In fact, it activates opposing reactions on consumers' perspective: relevance and credibility on the one hand and concerns and intrusiveness on the other. Acceptance of the OBA is positively related to the relevance and the credibility of the personalized advertisements, intended as the reliability and capability of the OBA of being a significant guide into the purchasing process while the intention to avoid personalized ads is strictly related to the concerns for privacy. Consequently, acceptance and avoidance of OBA affected (positively and negatively respectively) the intention of clicks and the behavioral intention that are decisive in the success of the personalized advertising.

As far as the negative effect of the OBA, concern for privacy is one of the central problems for the digital advertising industry. Due to its privacy implications, the OBA will soon enter the political agenda of several states. Despite these negative effects, personalized advertising seems to be the future of advertising.

The Internet and new media have changed individuals' habits and the way they use advertising messages, revolutionizing the way companies invest, promote and define measurement metrics.

The research should help advertisers consider the level of ad personalization since ads perceived as too personal could be seen as too intrusive and, consequently, lead to lower click and purchase rates. Consumers, indeed, will tend to accept OBA only if the benefits outweigh the costs in terms of loss of privacy. In addition, retailers should be more transparent, benefiting from open communication in the collection and use of data in order to personalize the advertising.

Research limitations and outlook

Some limitations are associated with the online survey and respondents may have been influenced by the presence of the visual stimulus and then distorted the answers in order to accomplish the research. Another concern is about the generalizability. Our sample, interviewed online, is probably neither truly random nor necessarily representative of any larger population.

For future research, we intend to enlarge the sample and investigate the phenomenon through experimental approach in order to understand the actual shopping behaviour in a simulated laboratory.

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Appendix

Table 1 Measurement Model and Test Results

Scales	N° items	Cronbach's Alpha	CR	AVE
OBA Acceptance	2	0.724	0.879	0.784
OBA Avoidance	6	0.826	0.867	0.528
Behavioral Intention	3	0.940	0.961	0.893
OBA Credibility	3	0.828	0.897	0.744
Privacy Concerns	5	0.956	0.966	0.850
OBA Relevance	8	0.932	0.946	0.693
OBA Perceived Usefulness	4	0.965	0.975	0.906

Table 2 Convergent Validity Analysis Results and Correlations

	1	2	3	4	5	6	7	8
1. OBA Acceptance	0.885							
2. OBA Avoidance	-0.141	0.726						
3. Behavioral Intention	0.526	-0.258	0.945					
4. Click Intention	0.469	-0.177	0.643	1.000				
5. OBA Credibility	0.554	-0.332	0.732	0.55	0.862			
6. Privacy Concerns	-0.066	0.496	-0.174	-0.009	-0.307	0.922		
7. OBA Relevance	0.606	-0.394	0.681	0.504	0.690	-0.113	0.833	
8. OBA Perceived Usefulness	0.498	-0.260	0.542	0.331	0.474	0.008	0.726	0.952

Note: On the diagonal. AVE values. Below the diagonal: correlations. The square root of AVEs (in italic) are larger than offdiagonal elements in their corresponding row and column for all cases.

Table 3 Fit of the model - R^2

Latent Variable	R^2
OBA Acceptance	0.411
OBA Avoidance	0.246
Behavioral Intention	0.414
Click Intention	0.232

Note: All latent variables have their R squares greater than 15%, suggesting good predictability of our model as confirmed by Chin (1998).

Table 4 Summary Structural Model

Hypothesis	Coeff.	St. Dev.	T-value	P-value	Hypothesis
H1 : OBA Relevance → OBA Acceptance	0.321	0.125	2.566	0.011	Accepted
H2 : OBA Credibility → OBA Acceptance	0.266	0.092	2.907	0.004	Accepted
H3 : OBA Perceived Usefulness → OBA Acceptance	0.139	0.122	1.134	0.257	Rejected
H4 : Privacy Concerns → OBA Avoidance	0.496	0.063	7.922	0.000	Accepted
H5 : OBA Acceptance → Click Intention	0.453	0.078	5.787	0.000	Accepted
H6 : OBA Avoidance → Click Intention	-0.113	0.098	1.154	0.249	Rejected
H7 : Click Intention → Behavioral Intention	0.643	0.061	10.579	0.000	Accepted

Figure 3 Visual Stimulus

“Imagine that you want to buy a pair of sports shoes. In order to achieve this goal, you connect to the website "Zalando". Looking for "Running Sport Shoes", the site shows you different products. Browsing among the options, you choose to click on some products to observe with greater attention.

I ask you to see this short video (25 seconds), in order to put yourself in the action just described, pretending to be you to operate the navigation.

Imagine then to leave the site without finalize the purchase. Imagine that the day after, browsing the web, you open the website of 3BMETEO.COM, finding yourself in front of an announcement advertising that shows the exact products that you have displayed during the navigation of the day previous.”



Keywords

Online behavioral advertising, digital advertising, privacy concern, behavioral intention

YOU'LL NEVER SHOP ALONE! – CUSTOMER-TO-CUSTOMER INTERACTION AT THE DISCOUNT STORE.

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Introduction

With the emergence of digital retail channels, brick-and-mortar retailers are under pressure to stay relevant. As digital channels are difficult to compete with regarding assortment and price, many retailers strive to provide the best in-store experience in order to create value for their customers (Lemon/Verhoef 2016).

Yet, as proposed by the service-dominant (SD-)logic by Vargo/Lusch (2004), value is not created by a service provider, in this case the retailer, alone but rather co-created with the customers. In line with this, Ramaswamy (2011) argues that value comes from experiences, experiences come from interactions, and firms are entities that facilitate the creation of experience-based value through interactions.

Inspired by SD-logic, a growing body of research deals with customer-to-customer (CTC)-interactions during the service encounter. Many publications focus on positive interactions (Kim/Choi, 2016; Rosenbaum/Massiah, 2007), fewer on mixed or negative ones (Jung et al., 2017; Raajpoot/Sharma, 2006). While most of the extant research deals with CTC-interactions in tourism, leisure or entertainment settings (Heinonen et al. 2018; Nicholls 2010), there is a smaller number of studies in the context of retailing (Harris et al, 1995; McGrath/Otnes 1995; Parker/Ward 2000). Only few papers focus on positive and negative encounters simultaneously.

Purpose

This research suggests that both positive and negative CTC-interactions play a substantial role in shaping the in-store experience. There is still a lack of understanding of these interactions. Deeper insight could help retailers design a suitable service environment and support positive encounters.

This research is exploratory in its nature. The purpose is to gain insight into CTC-interactions at the point of sale. As the authors are interested in both positive and negative CTC-interactions and their implications, i.e. the potential co-creation and co-destruction of customer value, grocery shopping at the discount store, where customers have encounters of all nature, was chosen as a context.

The proposition of the SD-logic has substantially changed the view of customers, suggesting that they play an active role in the service process. The paradigm refers to all kinds of services, with retailing being no exception. Interactions between customers lead to the co-creation of a

joint retail experience. By managing CTC-interactions, retailers can manage the in-store experience (Verhoef et al. 2009, p. 35).

Design/methodology/approach

A convenience sample of 119 Austrian university students ($M_{Age} = 22.7$, $SD_{Age} = 3.62$; 50% female) took part in the study. Respondents were randomly assigned to two groups. Using the critical incident technique, one group ($n=59$; N1-N59) was invited to give a detailed description of a positive encounter with other customers at a discount grocery store, the other a negative encounter ($n=59$; P1-P59). Further questions dealt with the trigger for the encounter, respondents' actions, other customers' actions, emotional experience, and consequences for future shopping-trips. As a follow-up question, consumers rated the overall experience of shopping at a discount store.

Conventional qualitative content analysis, according to Hsieh and Shannon (2005) was conducted. Three researchers were involved in data analysis and coding. First, the written accounts by the respondents were read to identify relevant patterns in both positive and negative interactions. Then all interviews were individually coded and compared to account for inter-coder reliability. Data analysis and interpretation resulted in five research propositions (RP1-5).

Findings

Consumers know shopping at the discount store to be a social experience and expect to have positive and negative encounters with other customers. A number of common themes were identified (see table 1).

<i>Positive interactions (n=59)</i>		<i>Negative interactions (n=59)</i>	
Allowing someone to go first at checkout	11	Cutting the line at checkout	15
Socialising	11	Confrontation with staff	12
Same need/situation	10	Competing for merchandise	10
Help finding merchandise	10	Besetting others	9
Provision of advice	5	Blocking the aisles	7
Help with shelf height	4	Mistreatment of merchandise	6
Picking something up from the floor	4	Own misbehaviour	1
Being offered the last item	3	Emergency situation	1
Help in an emergency situation	1		
Other friendly gestures	3	Other forms of misbehaviour	7

Table 1: Triggers for CTC-interactions

Positive Interactions are often set in motion by friendly gestures. Allowing someone to go first at checkout is the most common one. Other positive narratives concern social interactions (such as a friendly chat), or bonding moments with other consumers who share an experience or need. P13: *“The store had a new design ... We were both unable to find our desired product... We were trying to solve a puzzle and glad not to be alone.”*

Customers seeking help from other shoppers may also initiate positive encounters. Interestingly, in three out of four situations, the narrator is the beneficiary of a good deed rather than the helping-hand.

Many negative interactions are triggered by crowding. Cutting the line is the most common cause for unpleasant encounters. Feeling beset or shoved around was also mentioned frequently. N15: *“My shopping companion and I were almost run over by a shopping cart.”* Blocked aisles

also spark negative experience. N2 recounts: „*An older woman softly bumped into me with her shopping cart. When I turned around with a resentful look, she did not apologise and told me in an annoyed tone that I was in her way.*”

Competing for merchandise is another trigger. N55 mentions an example: “*A woman wanted to buy the same t-shirt as my mother... There was only one ... left. She wanted to snatch the t-shirt from my mom, but my mom had it first.*”

Mistreatment of merchandise is also considered problematic behaviour. For example, N12 observed a shopper in the fruit section: “*I could see a woman rummaging around the bananas and tossing them back. Unfortunately, I had to approach her and tell her that she was handling food.*”

RP1: CTC-interactions at the discount store are shaped by norms (and double standards).

There are both explicit and implicit norms on how to behave and not to behave in-store (with customers referring to norms in more than 30% of positive and more than 40% of negative narratives). In line with the expectation/confirmation paradigm, critical incidents are caused by shoppers’ deviation from behavioural norms.

Deviations occur in both directions. P28 mentions being surprised by a positive interaction: “*It made my shopping trip ‘friendlier’. Usually people rather want to be left alone when shopping*”. N52, on the other hand, complains about another shopper not following the rules: “*If everyone else went about it like that, there would be chaos!*”

When it comes to complying with norms, consumers have double standards. What is okay for them is considered rude in others. An example concerning psychological ownership of shopping carts illustrates this: N24 mocks other consumers, who do not want anyone to touch their shopping cart: “*The entire aisle is blocked with shopping carts. You want to move one of them, and the ‘owner’ comes quickly and gets upset about it*”. A couple of sentences later, the same respondent complains about “*somebody unscrupulously moving my shopping cart*”.

Study participants present themselves as considerate shoppers and disassociate themselves from misbehaving others. N7 reports an incident, in which several other customers loudly complain about slow service: „*I did not want to be considered one of them.*” Only one of the 119 study participants (N13) narrates an encounter that was caused by himself not following the rules.

RP2: In negative encounters with other customers, shoppers often assume a passive role.

Very often study participants describe unpleasant situations in which they assume a passive role. In 45% of all negative narratives, the interviewee is only a bystander, witnessing other customers’ misbehaviour (e.g. confrontations with the staff or other customers). By comparison, the respondent only acts as a bystander in 5% of all positive incidents.

N46 mentions being upset because another person cut the line: „*I was angry about this behaviour, but I didn’t say anything*“. N57 whose reaction to a similar situation is the same explains: „*I didn’t want to start a big crosstalk, so I kept my own thoughts on the matter to myself in the end.*”

Many study participants do not even react when they are the victim of misbehaviour. N39 recounts ignoring people who were insulting her, which left her “*offended, feeling awkward, powerless, stupid and angry*”

RP3: Solidarity is an important factor that can make or break critical incidents at the POS.

Interviews reveal solidarity as an important factor, especially in unpleasant interactions with other customers. A lack of solidarity is disappointing. N14: *“Other consumers only looked on sheepishly, but they didn’t say anything.”* N30: *“I was shocked by everyone’s indifference”*. Especially in situations, in which the shopper himself is a victim, inactivity of others results in negative emotions. N23: *“I felt humiliated and inferior, as other people behind me had overheard everything and had nothing to interpose.”* Given their own passivity in many situations, this again illustrates the double standards shoppers have.

On the other hand, acts of solidarity are reassuring to shoppers. N57: *“The other customers were obviously taking my side, even if they didn’t intervene.”* They may turn around a negative experience, even if they are only small gestures. P25 recounts being overwhelmed, when packing her bags at the checkout. A shopper behind her supported her with *„ a friendly smile... compassion and one or two sentences like ‘Yes, that’s always a little too fast for me as well.’”*

RP4: Non-verbal interaction plays a major role in CTC-encounters.

Very often customers’ first attempt to interact is by sending non-verbal signals. In positive encounters, people tend to exchange looks before starting a conversation. Non-verbal signals are also used to support others. P57: *“I thanked her with a smile.”* N12: *“Another woman looked at me reassuringly and rolled her eyes.”* In negative encounters, people show their dissent using body language. N38: *“I expressed my negative emotions – rolling my eyes or something like that – but I didn’t say anything.”*

RP5: CTC-interactions may influence the perception of the retail brand.

66% of all respondents mention consequences for future shopping, 23% say that there are none, and 10% that there are hardly any. Some people, like P46, state that they *“associate this experience with the person and not the discounter”*. Others hold the retailer accountable, like N20: *“I will definitely not go to (retail brand) again. Both parties deviated strongly from all behavioural norms, which made me feel unwelcome.”*

A comparison of the general assessment of the overall experience of shopping at a discount store reveals differences between study participants in the two groups. Those who recounted a negative interaction with other customers rated shopping at the discount store worse in seven of eight categories. Differences were highly significant for friendliness ($p=0.002$) and pleasantness ($p=0.001$), and significant for attractiveness ($p=0.036$).

Value and outlook

The study is exploratory and operated with a student sample, yet it provides insight into CTC-interactions at the point of sale. It indicates that encounters with other customers strongly influence the in-store experience. The findings encourage further research (esp. observations), concerning role-patterns, and nature of the verbal and nonverbal exchange.

Especially the role of solidarity among shoppers constitutes a promising topic for future studies. Negative events are sometimes the trigger for positive interactions, when customers are sharing the experience and supporting one another.

Customer interaction often seems to be the tipping point for customers’ emotional state in store. Change of mood – from negative to positive – seems to be especially interesting due to the extensive literature, linking mood to shopping duration, basket size, and word-of-mouth.

Findings of this study were gathered in the context of discount shopping. As CTC-interactions are shaped by expectations and norms, which may differ substantially based on shopping mission and sales format, researching encounters in other settings (e.g. recreational shopping or shopping events) may provide additional insight.

The study hints at an effect of CTC-interactions, on not only the experience in-store but also the perception of the retail brand. Retailers should be aware that they are providing the setting for customer encounters, which affect the experience with their brand. Strategies that encourage positive and prevent negative CTC-interactions may provide a competitive advantage.

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Keywords

critical incidents, consumer misbehaviour, customer-to-customer interaction, customer-to-customer support, in-store experience, social encounter, value in experience



“AN EPHEMERAL’S STORE ATMOSPHERIC CHARACTERISTICS”

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This research is interested in looking at ephemeral store atmospheres, whether the ephemeral store’s vocation was commercial or event-based, to gain better understanding of their characteristics. An in-situ observation was carried out in 26 ephemeral stores having a commercial or event-based vocation in France. Following an observation guide, notes and pictures were taken on-site to collect relevant information about the store and visitors. Research findings highlight characteristics specific to the ephemeral store atmospheres. When the ephemeral store’s vocation is commercial, the characteristics are related to the conception, design, temporality and social aspects. In the case of event-based ephemeral store vocation, the characteristics relate to the layout and the social aspects. The characteristics of a point of sale’s atmosphere have been the subject of several academic research since the 1980s; however, very little research is interested in ephemeral points of sale.



“HURRY UP! EFFECT OF POP-UP STORES’ EPHEMERALITY ON CONSUMERS’ INTENTION TO VISIT”

Laura Henkel, Waldemar Toporowski (University of Göttingen)

Retail channels are in constant transformation in line with the increased digitalization and changing consumption habits. Consumers increasingly prefer ephemerality and immediacy. Retail has answered this trend with pop-up stores: an ephemeral, experiential store format. As pop-ups are highly original, it is no surprise that research has determined their target group as having a high need for uniqueness (NFU). Still, the question remains as to which pop-up characteristics lead consumers to perceive the store as attractive. Research has identified experience as having an impact on consumer behavior. However, experience does not exclusively define pop-ups but applies to all experiential stores. We hypothesize that ephemerality, pop-ups’ main distinguishing feature, may contribute to consumers’ visit. Specifically, we aim to investigate the effect of store ephemerality through anticipated product scarcity on intention to visit by considering the moderating role of NFU. We test our hypotheses in two studies. In study 1, we employed a one-factor, two-level (flagship vs. pop-up) between-subjects design. For study 2, participants were randomly assigned to one of four conditions as part of a 2 (store ephemerality: flagship vs. pop-up) × 2 (NFU: low NFU vs. high NFU) between-subjects design. To analyze our model, we performed a moderated mediation. Our work suggests that, despite pop-ups’ non-sales focus, store ephemerality translates into the anticipation of a limited product assortment which further drives consumers’ intention to visit, especially for those with a high need for uniqueness. Unexpectedly, we found no direct effect of store ephemerality on intention to visit.



“FRANCHISOR-FRANCHISEE RELATIONSHIP AND CUSTOMER DATA MANAGEMENT IN THE DATA ERA”

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Martine DEPARIS (European Business School)

Saloua BENNAGHMOUCH (Université de Haute-Alsace)

Managing customer data in franchise networks is a delicate, complicated and little studied issue. In order to better understand its challenges and the keys to success, this research work offers a study in three stages following the process of grounded theory (Glaser and Strauss, 1967). Thus, a qualitative study was carried out with around thirty franchisors, franchisees and franchise experts. It helped to explore the world of customer data management in franchise networks and to identify its strengths and weaknesses in the context of GDPR (General Data Protection Regulations). The results of the qualitative study helped to clarify our theoretical framework and to position ourselves on the side of the founding theories of the relationship marketing (Morgan and Hunt, 1994).

A research model was then defined and tested using a quantitative study administered to a total sample of 192 franchisors and franchisees. Statistical tests carried out show that relational quality, through its determinants (inter-organizational communication, franchisee autonomy, technical and human equipment and the contractualization about customer data management) contributes to achieving positive marketing and commercial performance. Likewise, it has been noted that the collection of customer data cannot be an aim in itself and that it should be accompanied by a real data culture in franchise networks.

“VALUE CO-CREATION BETWEEN CONSUMERS AND DISTRIBUTORS: THE MODERATING EFFECT OF RELATIONSHIP CHARACTERISTICS”

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Although value co-creation has been widely analyzed in digital contexts and various types of services (tourism, healthcare, etc.), it has received less study in the area of retail distribution. This study therefore proposes two variables that are important from a relationship marketing perspective: Trust in the retailer and perceived support can encourage co-creation behavior on various levels: a basic level related to communication of service errors and a moderate-high level related to participation in service innovation. This study also proposes modelling for two different segments: the segment that participates in a loyalty program vs. the segment that does not, and customers with longer relationship duration vs customers with shorter relationship duration.

The results show differences in the formation of co-creation behaviors, depending on the groups of customers analyzed. To encourage communication of service errors, it is crucial that customers affiliated with the program and customers with the longest customer-firm relationships trust the distributor; perceived support has no influence whatsoever on these groups. Perceived support is crucial, however, in encouraging feedback on service errors among non-affiliated and new customers. As to moderate/high level of co-creation—that is, co-creation to promote service innovation—the most significant antecedent is perceived support, followed by trust, independently of whether or not the customer belongs to the loyalty program. As to duration of relationship with the firm, customers with the longest relationship participate in co-innovation activities motivated equally by trust in the retailer and the support they perceive from the retailer. Customers with shorter relationship duration only participate in co-innovation activities if they believe that the distributor hears their opinions and takes them into account.

EVIDENCE STRUCTURE OF THE EMOTIONAL CONTENT IN ONLINE CUSTOMER REVIEWS

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Abstract

The objective of this article is to investigate the role of emotions, and more specifically, the strength of positive and negative emotions and the emotional charge in online consumer reviews across distinct product categories with hedonic and utilitarian attributes and the level of product involvement. We extracted 357,328 online customer reviews posted on 1,485 products, representing distinct levels of hedonic and utilitarian attributes and the level of product involvement, as well as the reviewer name, star rating and date of each review. We used SentiStrength to measure the emotional content of the reviews, and the theory of evidence to construct an evidence structure to determine the level of support for the emotional content and ratings across different product attributes. Our analysis demonstrates that there is not only one product attribute that explains the emotional characteristics of online customer reviews, but rather a combination of these attributes that differently affect the way consumers express emotions in these contexts. Our findings provide important theoretical implications by demonstrating that customers express emotions in online reviews in distinct ways, depending on product characteristics, such as the hedonic and utilitarian nature, and the level of involvement. From a practitioner standpoint, our results show to online retailing companies that they should take these product characteristics- into account in their marketing strategies.

1. Introduction

Online customer reviews are an important source of information, and a space where individuals share their consumption opinions and experiences and engage in a word-of-mouth process with others (Chen and Xie, 2008). The content of these comments can be cognitive or emotional (Moore, 2015). Thus, consumers can engage in a word-of-mouth process not only to discuss the benefits and drawbacks of a product, but also to express their emotions towards the consumption experience, regulate emotions, such as by venting or receiving and providing social support, and create social bonds (Berger, 2014). The emotional nature of online reviews is one of the drivers of word-of-mouth, influencing on decisions of what to talk (Berger, 2014) and whether to share online content (Berger and Milkman, 2012). Online customer reviews have shown an important impact on consumer behavior, influencing attitudes (Zablocki et al., 2019), perceived usefulness (Felbermayr and Nanopoulos, 2016), and conversion rates (Ludwig et al., 2013).

The mechanisms underpinning emotional processes in word-of-mouth communications are explained with basis on emotional social sharing. This theory considers that an emotional experience may start a process involving cognitive, symbolic affective and social aspects, which are part of and as important as the emotional experience itself (Rime, 2009). The nature of the

product, in terms of its utilitarian and hedonic attributes, and the level of involvement, may also influence these processes. Utilitarian products are considered as mainly cognitive and functional, and purchased as a result of a necessity, e.g., dust pan and brush set, whereas hedonic products are mainly emotional and experiential, and are purchased as a result of pleasure and enjoyment, e.g., jewelry (Moore, 2015, Holbrook and Hirshman, 1982). Product involvement is associated with the relevance and importance of a product for a consumer, which is likely to affect the level of attention he/she focuses on it (Ratchford, 1987).

The analysis of the emotions expressed in online reviews has become a managerial priority to understand products evaluations and it has been extensively investigated in the marketing literature (e.g., Felbermayr and Nanopoulos, 2016; Ludwig et al., 2013; Zablocki et al., 2019). Some of these studies approach differences regarding products hedonic or utilitarian attributes (e.g., Ullah et al., 2016; Kronrod and Danziger, 2013) and distinct levels of product involvement (e.g., Candi et al., 2017). However, to the best of our knowledge, no previous study has examined the emotional content in online customer reviews across a diverse range of products categories with various combinations of attributes and the level of involvement, nor has investigated the emotional dynamics on consumers' opinions with basis on evidence theory.

2. Purpose

The objective of this work is to examine the emotional content, dynamics in customer reviews in a multi-dimensional way (emotional strength, charge and ratings) across several product categories with utilitarian/hedonic, and product involvement attributes. We conducted a pre-test to classify products into multidimensional quadrants with utilitarian/hedonic attributes and the level of product involvement to classify products into multidimensional quadrants with utilitarian/hedonic attributes and the level of product involvement with basis on Voss et al. (2003) and Ratchford (1987). We then employ the Dempster-Shafer Theory (DST) of evidence (Dempster, 1967, Shafer, 1976, Mlinar, 2015) in order to construct an evidence structure using the star ratings and emotional content from user reviews, and to determine the level of support for the hypotheses defined.

3. Methodology

3.1. Pretest

We conducted a pretest in MTurk in order to measure the hedonic and utilitarian dimensions of different products and their level of product involvement based on the scales of Voss et al. (2003) and Ratchford (1987). We selected 43 product types based on their classification on previous literature (e.g., jeans in Voss et al, 2003) and our own perception of their utilitarian/ hedonic and involvement characteristics. 432 participants were randomly assigned to one of seven versions of the questionnaire including seven products (six different products and one same product that was tested across the seven versions). Participants were asked to evaluate the hedonic, utilitarian and involvement attributes of each product, and to indicate whether they had previously used and purchased the product

We conducted t-tests to identify the utilitarian *versus* hedonic characteristics, and the low *versus* high levels of involvement of the products. Thus, we classified the product categories into different quadrants considering Low (L)/High (H) Hedonic (H) and Low

(L)/High (H) Utilitarian (U) dimensions of attributes i.e., (LH,LU), (LH,HU), (HH,LU), and (HH,HU), and Low (L)/High(H) Product Involvement (I) (i.e., LI or HI) .

Based on the results of the pretest, the product considered in the further analysis are presented in Table 1.

Product Involvement\ Product Attributes	(LH,HU)	(HH,LU)	(HH,HU)
HI	Blood pressure monitors Printers	Gold earrings	Smart watches TVs
LI	Dustpan and brush sets Paper towels	Chocolate Soft drinks	Tea-light candles

Table 1: Selected product categories and their hedonic/utilitarian dimensions and level of product involvement

In our preliminary analysis, we selected several product categories that satisfied the following conditions: low/high hedonic/utilitarian and product involvement classifications do not change depending on respondents' experience regarding the product (used/purchased the product) and the scale used. For example, according to the scale by Voss et al. (2003), the printer is classified as a product with (LH, HU) attributes as it scored in average 2,68 (i.e., 2,75) on hedonic attributes based on respondents answers on whether they used (i.e., purchased) the product, and 6,36 (i.e., 6,42) on utilitarian attributes. According to the scale by Ratchford (1987), the printer scored in average 2,5 (2,63) on Feel attribute, and 6,48 (6,44) on Think attribute. The product is characterised by High Involvement (HI) on the scale by Ratchford (1987) with the average value 5,24 (i.e.,5,4). Note that scales range is from 1 to 7.

3.2. Main Study

Data collection

For each product of the product categories considered, we collected the following product information: user reviews, star rating and date of each review from the website of an online retailer. In total, our final database contains the information about 1,485 different products and 357,328 customer reviews. We use SentiStrength software (Thelwall et al., 2012) for sentiment mining of user reviews, which ranks the affective content of words contained in review r into positive ($\epsilon_{pos,r}$), from 1 (not positive) to 5 (extremely positive), and negative ($\epsilon_{neg,r}$) from -1 (not negative) to -5 (extremely negative). For review r , we also compute its emotional charge as follows $\epsilon_{charge,r} = \epsilon_{pos,r} + \epsilon_{neg,r}$, thus $-4 \leq \epsilon_{charge,r} \leq 4$.

Dempster and Shafer Theory

We apply the Dempster-Shafer Theory of evidence (DST) (Dempster, 1967, Shafer, 1976, Mlinar, 2015) in order to analyze the emotional content contained in user reviews of products characterised by product attributes, product rating, positive and negative emotions, emotional charge, and involvement. For a given product category, we confront different product attributes through postulated hypotheses distilled within DST. Namely, we use consumer

reviews for every product within a given category to construct evidence structure in possible support and conflict with given hypotheses.

For a product (within a category) to qualify to belong to a set of products for a given hypothesis, more than 50% of the reviews need to satisfy the criteria defined for the given hypothesis. For example, if a hypothesis requires reviews with extreme positive or negative emotions, for a product to be selected to the supporting set of the hypotheses (in our case two), more than 50% of the reports have to have those extreme emotions. The Dempster-Shafer rule of combination is expressed by the final mass assignment of two hypotheses, m_{DS} (which combines pieces of evidence from the data to support the hypotheses). The values of m_{DS} of the four cases are presented in Figure 1.

When analyzing results, it is important to know that a set S_i (for $i=1,2$) contains those products that satisfy hypothesis i . The set S_{all} represents all products within a given category of products, and set S_3 results from DST procedure, which contain products of S_1 that also belong to S_2 (i.e., $S_3 = S_1 \cap S_2$). We illustrate applications of DST on the given problem through several cases described in the following section.

4. Findings

In order to explore the role of positive and negative emotions, emotional charge, and consumer star ratings for a given category of products, we consider four test cases covering range of possible emotions in consumer reports of products within a category. More detailed study is to follow.

4.1. Case 1

Hypothesis 1: Only highly emotional reviews (either positive or negative) with $\varepsilon_{pos,r} \geq 3$ or $\varepsilon_{neg,r} \leq -3$, are responsible for emotional content about a product within a given category.

Hypothesis 2: It is not emotion (positive or negative) that influence emotional content about a product, but either generally positive or generally negative emotional charges $\varepsilon_{charge,r} \leq -2$ or $\varepsilon_{charge,r} \geq 2$.

Our findings (see Fig. 1a) show that extreme emotions (S_1) are prevalent in comparison to the emotional charge (S_2) for highly utilitarian products with either low or high hedonic attributes and a high involvement. Furthermore, customers tend to express high emotions when writing reviews with highly emotionally charged content about highly hedonic and low utilitarian products, while, on the other hand, customers tend to express significantly less their emotions while writing reviews about (LH, HU) products with a low involvement.

Note the discrepancy between m_{DS} for chocolate and soft drinks, in the scenarios with (HH,LU) products. The reason could be a limited number of products for the category “soft drinks”, only eleven.

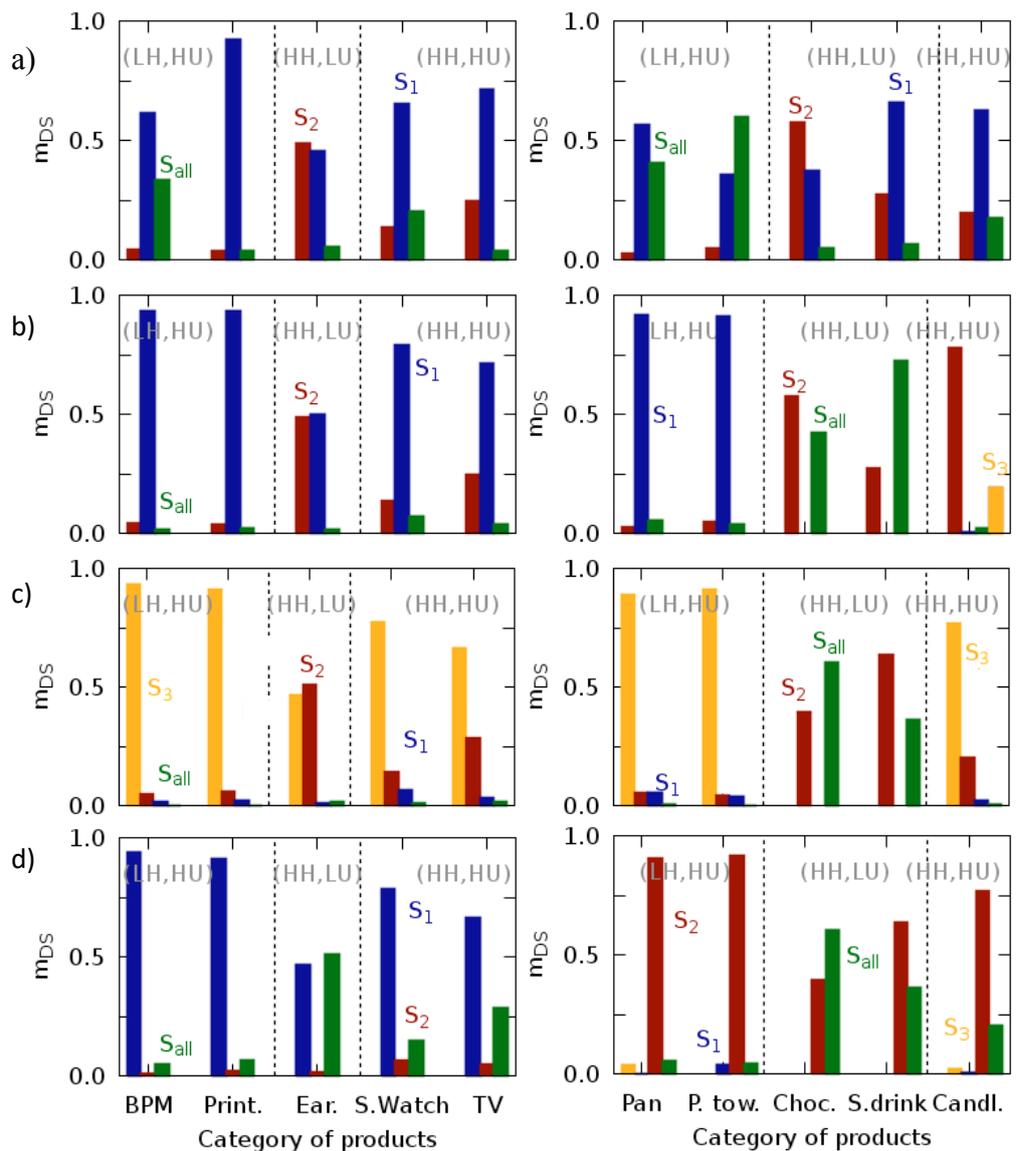


Figure 1: The DS Rule of Combination expressed by the basic belief assignment m_{DS} for HI products (left figures) and LI products (right figures) for the four cases: (a) Case 1, (b) Case 2, (c) Case 3, (d) Case 4.

4.2. Case 2

Hypothesis 1: We do not consider emotions, but only ratings, which are extremely negative (value 1), or extremely positive (value 5).

Hypothesis 2: the same as in Case 1.

In Fig 1.b) on the left, our calculations demonstrate that star ratings (S_1) dominate over a positive or negative emotional charge (S_2) for highly utilitarian and high involvement products with either low/high hedonic attributes. However, the results show the balanced

influence of both emotionally charged content and star ratings on user reviews for (HH,LU) and high involvement products.

When the products are characterised by a high hedonic attribute (i.e., (HH,LU) and (HH,HU)) and a low involvement (Fig 1.b) on the right), our calculations reveal that the emotional charge dominates over the ratings. However, for (HH,LU) products, $m_{DS}(S_{all})$ is higher (0,424 and 0,727, for chocolate and soft drinks, respectively), showing that some product attributes other than emotional charge can play an important role.

4.3. Case 3

Hypothesis 1: the same as in Case 2.

Hypothesis 2: Different to Hypothesis 2 of the first two cases, we consider the low level of emotional charge $-2 < \varepsilon_{charge,r} < 2$.

Our results reveal that for most product categories especially those with high utilitarian attributes, customers tend to give extremely positive/negative ratings when writing neutral emotionally charged contents (see Fig 1.c). Emotional content of reviews about (HH,LU) products are characterised by neutral emotionally charged contents but also by other product attributes.

4.4. Case 4

Hypothesis 1: We consider only moderate ratings in the interval [2,4].

Hypothesis 2: the same as in Case 1.

Results for the case 4 (Fig. 1d) reveal that for high involvement products, -customers rather post moderate ratings than write neutral emotionally charged reviews. On the other hand, for (LI) products, the review content is rather neutral than with moderate ratings. For highly hedonic products, especially those with low utilitarian attributes, other attributes in addition to neutral emotional charge are responsible to the emotional content about a product.

5. Original Value

Our analysis demonstrates that there is not only one product attribute, among those considered in this study, that explain the emotional characteristics of online customer reviews, but rather a mix of these attributes that may differently affect the way consumers express emotions in these contexts. Our findings provide important theoretical and managerial implications. Regarding the former, we add to previous studies approaching emotions in online customer reviews (e.g., Felbermayr and Nanopoulos, 2016; Kronrod and Danziger, 2013; Ullah et al., 2016; Zablocki et al., 2019) by demonstrating that customers express emotions in online reviews in distinct ways, depending on product characteristics, such as the hedonic and utilitarian nature, and the level of involvement. From a practitioner standpoint, our results show to online retailing companies that they should take these product characteristics into account in their marketing strategies.

6. Keywords

Online customer reviews, Word-of-mouth, Social sharing of emotions, Hedonic/ utilitarian product attributes, Product involvement, Theory of Evidence.

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“INFLUENCING FACTORS ON INTENTIONAL USE OF CONVERSATIONAL COMMERCE”

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Digital voice assistants have become part of consumers' everyday lives and reached a technological maturity with which they generate enough value to also become relevant for retail. This study investigates drivers and barriers of online shopping via voice, also called conversational commerce, on the intentional use. In comparison to traditional online shopping via keyboard, here, a linguistic input with the help of a digital voice assistant creates a purchase order. Digital voice assistants differ from traditional technologies using natural language meaning a natural and comfortable way of communication which can lead to anthropomorphism, so the transfer from human attributes to non-human actors. Referred to the parasocial interaction theory, we assume that consumers establish a social relationship with the assistant. Thus, voice assistants could have the potential to replace or to extend a human salesperson. With the help of a problem-oriented semi-structured interview guideline, we conducted a qualitative survey (N = 18) to identify relevant influencing factors which can foster or prevent consumers to use this new technology for buying online. Based on a derived category system developed through a qualitative content analysis, the findings show that distribution, trust/safety, the product category, convenience and anthropomorphism play a key role concerning the intentional use. Retailers can open a new sales channel and extend the customer journey by combining conversational shopping with online or stationary shopping.

RETHINKING THE COMMERCIAL SPACE OF PARISIAN RAILWAY STATIONS: TOWARD A HYBRID ECOSYSTEM

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Keywords

Railway stations - Ecosystem - *Mobiquity* - Smartphone usage - Ethnography

Purpose and introduction

Tokyo, Saint Pancras, Atocha, Gare Montparnasse... Railway stations are being transformed into commercial spaces, which are contributing to the strong growth of the Travel Retail sector (Xerfi, 2018). Representing one third of sales in transit areas, they are growth drivers for retailers, sources of revenue up to five times more efficient than shopping malls (Gaillard and Marton, 2018). Considered consumption spaces, transit areas are the subject of multidisciplinary research in sociology, geography and marketing (Bergadaà, 2009; Capo, 2015; Dang Vu and Jeaneau, 2008). Nevertheless, to our knowledge no retail research has focused on the railway station as an ecosystem— conducive to new modes of consumption via smartphone — combining mobility and ubiquity called *mobiquity*¹ by Schierz *et al.* (2010). Our research echoes the calls for research about transformation of public spaces in marketplaces (Castilhos and Dolbec, 2018). Framed by business ecosystem literature, and nourished by ethnographic data collection through observation and interviews with various stakeholders, this work aims firstly to characterize a hybridization between a travel-oriented ecosystem and a consumption-oriented ecosystem within the newly refurbished Parisian railway stations, and secondly to understand if, and how, connected travellers become consumers by interacting with this ecosystem.

Conceptual framework

The railway station in the context of mobiquity

Postmodern society is constantly conquering time and space against a backdrop of widespread acceleration and a juxtaposition of different rhythms of life and multitasking activities (Rosa, 2016). In this context, the use of digital tools promotes protean mobility, which is adjusted in real time to situations experienced simultaneously in physical and virtual spaces (Balasubramanian *et al.*, 2002). *Mobiquity*, an aggregation of ubiquity and mobile technologies, makes it possible to multiply spatial mobility in a constrained timeframe (Ascher, 2006; Schierz *et al.*, 2010).

Mobiquitic behaviour concerns shopping experiences when the connected consumer chooses between points of sales and integrates his purchasing path into the course of his daily life while minimising the time and effort required. (Bardhi and Eckhardt, 2017; Belk, 2013; Dion and Michaud-Trevinal, 2004; Voropanova and Deparis, 2018). This purchasing process resembles a constellation of physical and virtual contact points in a controlled space-time (Lallement and Gourmelen, 2018; Badot *et al.*, 2019). The smartphone, one of the most widely used connected objects in mobility today, combines continuity, immediacy, portability, searchability (Okazaki and Mendez, 2013). It also offers the feature of combining the temporal convenience of "anytime" with the spatial convenience of "anywhere" (Wagner, 2011).

The railway station connects its neighbourhood with the transport network, allows transfer between different modes of travel, and facilitates the commercial use of its location (Zemp *et al.*, 2011) in a constrained and planned time (Baron, 2019). Its spatial dimension evolved considerably: massive and central in the 19th century, the railway station became invisible and underground in the 20th century, and has today one again become central (Bellanger and

¹ "*Mobiquity*" is an individual consumer characteristic that expresses the need to benefit from a service at any moment (time), anywhere (space) and through any media (object). The concept "*individual mobility*" developed by Schierz *et al.* (2010) identifies a significant and positive link between individual mobility and the intention to use mobile services.

Marzloff, 1997). As a hub of exchange and interconnection within a global urban plan, the railway station is now the synthesis of transport infrastructure, real estate, and marketplace (Riot, 2015): it thus promotes economic and social synergies by playing the role of *City Booster* (Lévy, 2008; Gasnier, 2007; Ropert, 2017).

Railway station spaces, historically dedicated to public passenger transport services, are being transformed into commercial spaces co-managed by public/private partnerships (Castilhos and Dolbec, 2018; Dang Vu and Jeaneau, 2008). The station has therefore become a liquid space (Bauman, 2013), a sort of *hyper-lieu* saturated with spatial, digital, commercial and logistical interactions (Lussault, 2017), and where digitalisation is intended to make travel as fluid as possible for a mobiquited traveller. The major Parisian railway stations are thus points of support for a shopping life via smartphone, which is currently being challenged by a group of architects calling for commercial moderation in often remarkable heritage sites (Verhaest-Cochery, 2019).

Theoretical framework about business ecosystems

The business ecosystem gathers heterogeneous actors involved in a common strategic vision oriented towards innovation (Moore, 1993). As suggested by Iansiti and Levien (2004), the actors are various *species* who play the roles of keystones, dominators or niche players. The coopetition between these *species* is defined as a horizontal form of cooperation combining collective and competitive strategies (Bresser, 1988) that can be cooperation-dominant, equality, or competition-dominant (Bengtsson and Kock, 2000). Relationships between the actors can be analysed through their architecture –centralized around a leader-player, or decentralized with a communitarian network (Assens, 2003) –; through the nature of their coordination – contractual or shared (Daidj, 2011) –; and through their geographic distribution – concentrated or deployed (Inkpen and Tsang, 2005). The multilayer approach highlights the three dimensions of a business ecosystem: whereas *upperground* actors bring new ideas and trends without being directly involved in the commercial or industrial domain, the actors of the *middle-ground* bring, manage and provide the structure necessary to make creative material economically viable. *Underground* actors generate the informal culture that nourishes and influences the ecosystem (Simon, 2009).

These different ecosystem approaches, nested in one another, have never been mobilized to characterize the interactions between the different actors involved in a consumption context. The originality of our work is to use this framework for the analysis of the ecosystem of the new-generation railway station (Appendix 1).

Methodology

In order to characterize the ecosystem of the new Parisian railway stations and to understand if, and how, the connected travellers become consumers, we conducted a qualitative ethnographic study (Belk *et al.*, 2013). To this aim, three data-collection stages were carried out. First, we interviewed 11 experts and professionals representing the stakeholders regarding the commercial transformation of the railway stations (Appendix 2). Second, we conducted 9 hours of in-situ observation in the railway station “Gare Montparnasse” at various times during the week (Arnould and Wallendorf, 1994). This made it possible to identify travellers’ typical journeys from their arrival at the station to their train’s departure. Third, we interviewed 18 mainline travellers using an interview guide that combined questions about memories they had of journeys through the station and projective scenarios for a departing journey (Appendix 3). The transcription of the semi-directive interviews (14 hours with experts and 17 hours with travellers) and the comparison of our field note observations led to a manual coding by the authors (Belk *et al.*, 2013). An in-depth comparative analysis led to the emergence of a traveller typology (from interviews with

experts, Appendix 4) and six different themes related to travellers' experiences at the railway station (from interviews with travellers, Appendix 5).

Findings

The railway station is a hybrid ecosystem

Interviews with experts and upstream stakeholders fed our analysis of ecosystem players and their relationships with each other through data. The incontestable leader player, SNCF SA, manager of public spaces owned by the State, deploys its centralized public culture through its subsidiary Gares and Connexion (dedicated to station management) which assigns the management and deployment of commercial spaces to Retail and Connexion.

Thus, a travel-oriented ecosystem and a consumption-oriented ecosystem coexist and form a hybrid ecosystem. This development of merchant services at the station, carried out in partnership with retail property companies, retailers and brands, contributes to the profitability of the initially public space. Three main segments of individuals frequenting the stations emerged from our interviews: travellers taking a train, their companions, and the "passers-by". Of these three segments, that of travellers gives rise to an in-depth typology by our respondents (Appendix 4). The interviews with professionals show that in transformed stations the offer to be developed must include both reassuring trade located on the path of travellers as well fluid and adaptable trade, which creates surprise, and which displaces the flow of travellers and passers-by.

Regarding the data, the business ecosystem of French stations is characterized by a silo architecture, probably inherited from successive additions of semi-private and then completely private players to the historic SNCF public service. Indeed, several apps² intended to make life easier for travellers/consumers coexist without interacting with each other. This bursting of data in hermetic silos — both within the SNCF and between actors in a situation of co-competition — resonates with the beginnings of multichannel distribution (Vanheems, 2009).

Finally, the railway business ecosystem is characterized by two essential elements: 1/ a hybridization between a travel-oriented ecosystem and a consumption-oriented ecosystem and 2/ a silo data architecture.

Travellers are only grazing the consumption ecosystem

Analysis of 18 mainline travellers' verbatim reports reveals strong similarities in the spatial and temporal development of the journey in stations (Appendix 5). Indeed, for all the profiles, the journey upon arrival at the station involves a ritualization of three anticipated gestures: 1/checking the timetable and the platform, 2/buying products related to the journey (newspapers or books, catering or snacking, gifts for guests) and 3/getting on the train. Depending on the waiting time, the succession of the three gestures is the same; only the time assigned to each changes with the possible introduction of a time to relax and discover new shops without the intention of buying. "*The journey starts in the station*" and the waiting time is a travel time that incorporates a bubble of consumption linked to the journey, and if possible a time of relaxation (reading, daydreaming, listening to the piano, using the smartphone).

We note that the use of the smartphone is variable according to age and can be slowed down by fear of theft or battery discharge before the trip. The mobile phone maintains the link

² "OUISNCF" for the purchase of tickets, "Gare 360" for orientation at the station, "En Gare" for easy access to market services, "Wiish" for loyalty to the brands/retailers managed by the main concessionaire, and finally all the apps offered by the different brands present in the station.

between the traveller and his ecosystems, both personal (websites, Netflix, Spotify, Youtube and social media) and professional (e-mails, online courses), and creates an additional link with the travel-oriented ecosystem (e-ticket, App OuiSNCF, App Gare 360). However, the mobile phone is not used to interact with the consumption-oriented ecosystem.

Anticipated, ritualised and connected, the journey through the station is that of an individual traveller and not a consumer. For some respondents, the Parisian station is seen as a heritage space dedicated to travel and whose recent commercial developments provide embellishment, light, life and an improved waiting experience. For others, it is a complete opposite perception as some of our respondents find the station cold in both senses of the word, stressful, anxiety provoking and not very safe. It shows not only the absence of a physical appropriation of the station but also the desire to mobilize a personal ecosystem to comfort them, to escape and to be entertained. However, for all interviewees Parisian railway stations aren't seen as a shopping space in their own right, and some voices even express a form of resistance to the commodification of space-time historically reserved for contemplative phases of transition towards departure.

Values and future research

The main theoretical contribution of this research is to mobilize the business ecosystem literature (Moore, 1993; Simon, 2009) to analyse the transformation of a public space into a market space (Castilhos and Dolbec, 2018). In the *middle-ground*, the players are in a situation of predominantly competitive cooperation orchestrated by the SNCF leader-player and constitute a hybrid ecosystem. A travel-oriented and a consumption-oriented ecosystem co-exist without really interconnecting, except when travellers purchase products to improve their traveling experience. In their peregrinations, individuals remain travellers who re-enchant their trips with bubbles of relaxation, graze consumption through purchases linked to their travel, and escape by interacting with their personal and professional ecosystems thanks to their smartphone. The *upper ground* of this hybrid ecosystem is imbued with the monopolistic and public service culture of SNCF SA, as well as with the patrimonial socio-cultural perception of the Parisian railway stations. Finally, the *under-ground* layer reveals resistance both from a collective movement of architects and from the mainlines travellers themselves, who challenge the market's invasion of spaces and moments which were formally free of consumption.

Before making a practical and complete contribution, this work will undergo further research. To begin, we will pursue our data collection among travellers who use suburban train lines for daily journeys, probably seeking convenience on their route. We also plan to interview the retailers involved in the consumption-oriented ecosystem in order to better understand the way they try to interact with the other stakeholders.

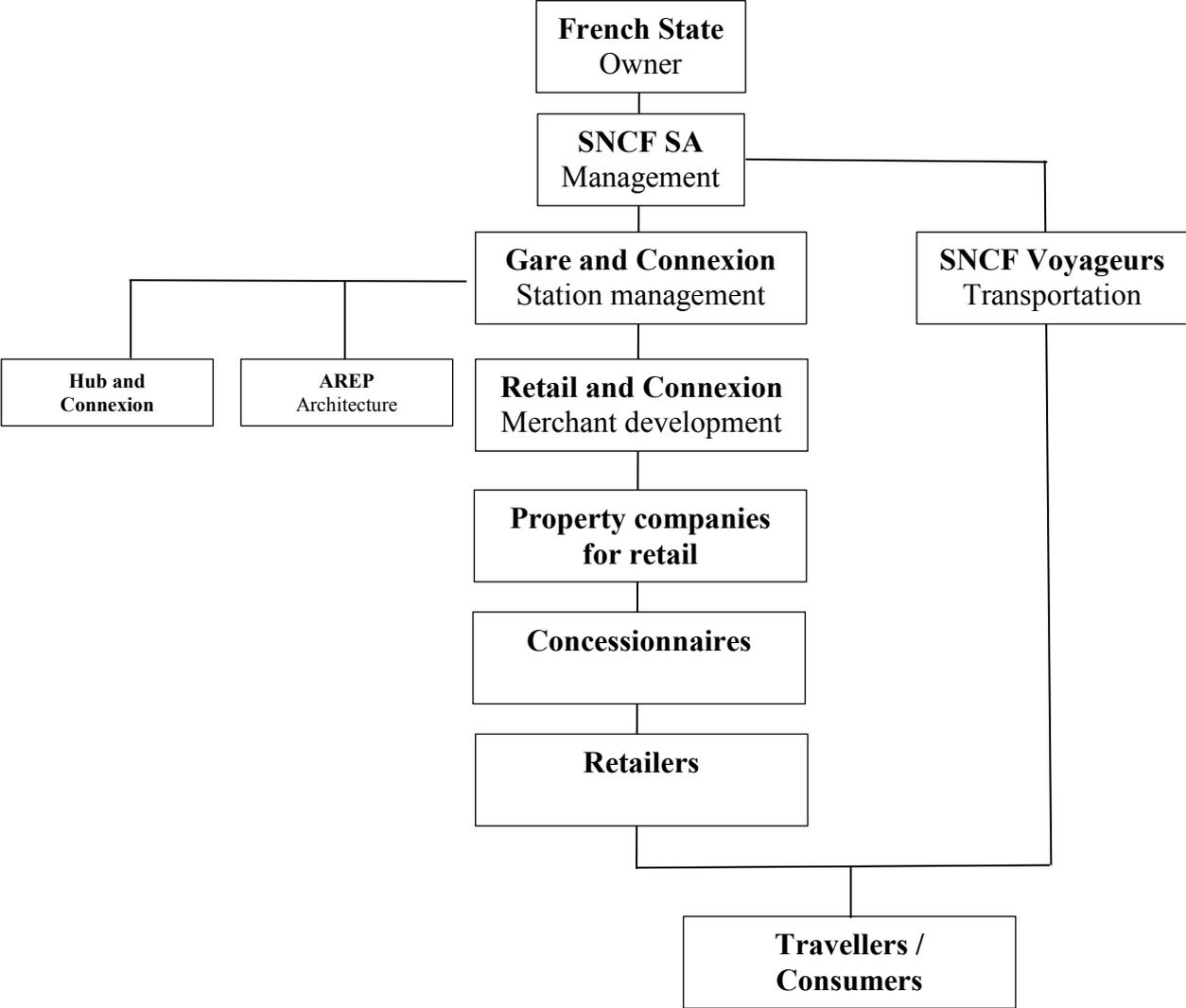
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Appendix 1 : Stakeholders involved in the transformation of Parisian railways stations



Appendix 2 : Interviewed upstream stakeholders

Stakeholders	Itw number	Function	Itw duration	Itw date
Experts	1	Urbanist and et anthropologist, Institut Vedecom and Institut Pour la Ville en Mouvement (IVM)	45 mn	22.03.19
	2	Urbanist, Institut pour la Ville et le Commerce	40 mn	03.04.19
Gare & Connexion	10	Responsible for digitalization Direction Gare & Connexion	70 mn	23.01.20
Retail & Connexion	11	Directeur des projets urbains	100 mn	07.02.20
	3	Responsible for Commercialisation Processes	55 mn	22.02.19
	4	Responsible for Commercialisation Paris	42 mn	21.03.19
Concessionnaire A.	5	Responsible for Customer Expérience	60 mn	24.01.19
	6	Responsible fotcommercialisation, interface with RandC	60 mn	15.03.19
	7	Responsible for Versailles Chantier station	45 mn	26.02.19
	8	Responsible for Paris Saint-Lazare station	30 mn	18.03.19
	9	Responsible for Paris-Montparnasse station	50 mn	14.03.19

Appendix 3 : Interviewed travellers

N°	Name	Sex	Age	Social Status, profession
1	Camille	F	30	Digital Media Planer
2	Bastien	M	31	Entrepreneur in web development
3	Dorian	M	31	Consultant
4	Laurette	F	30	Product Manager e-commerce
5	Caroline	F	63	Retired social worker
6	Marie -Laure	F	62	Nurse
7	Mathilde	F	23	Student
8	Marie-Caroline	F	50	Pharmacist
9	Stéphane	M	41	Professor University
10	Saloua	F	45	Professor
11	Olivia	F	46	Education Advisor
12	Luc	M	43	Head Teacher
13	Laura	F	22	Student apprentice
14	Vanessa	F	24	Student apprentice
15	Songül	F	24	Student apprentice
16	Anne-Lucile	F	24	Student apprentice
17	Lucas	M	24	Student apprentice
18	Chadrak	M	25	Student apprentice

Appendix 4 : Traveller typology (from interviews with experts)

		Travellers									
Criteria (A : Arrival. D : Departure)	Daily travellers		Business				Leisure				
			Regular		Occasional		Family		Solo / groups		
	A	D	A	D	A	D	A	D	A	D	
Qualification of the flows	Daily personal budget (limited)		Professional budget (more or less limited)				Leisure personal budget (more or less limited)				
	BtoC		BtoC et BtoB				Pescriber child		BtoC and BtoB		
	Regular travellers, time optimisation				Occasional travellers, time anticipation						

Appendix 5 : Significant verbatims from interviews with travellers

Themes	Verbatims
<p>Ritualized gestures:</p> <p>Gesture 1: Check the train schedule on the display panel/phone</p>	<p><i>"First, I spot my train and the platform to be quiet, then I visualize where I should take my train so I don't get caught short..." (Laurette, 30)</i></p> <p><i>"I try to be at the station 30 minutes before the train leaves... I go to a Starbucks, have my coffee and wait (...) I always check the track number on my phone (SNCF application) and on the notice board" (Chadrak, 25).</i></p>
<p>Gesture 2: Make a useful purchase for the trip</p>	<p><i>"When I'm alone, I always take the same route, I have my little routine: I get off the subway, I take the escalator on the left, I go to my train track and I go to Relay H to buy my magazine and a snack..." (Laurette, 30)</i></p> <p><i>"Le Relay is our little tradition" (Camille, 30)</i></p>
<p>Gesture 3: Go to the dock as soon as the dock number is displayed.</p>	<p><i>"I move as soon as the platform number is indicated; I like to have time to get settled before the train starts" (Olivia, 46).</i></p> <p><i>"Usually the trains are announced on the phone; you have to type "station and connections" on the internet and usually it's displayed before it appears on the screens" (Laura, 22).</i></p>
<p>Temporality</p>	<p><i>"When I take the train I'm always concerned about my train's, so I'm vigilant about time" (Olivia, 46)</i></p> <p><i>"I think it sucks to arrive too early at a train station, it makes me drunk" (Bastien, 31).</i></p> <p><i>"I always try to arrive a little bit earlier than 15 minutes because I don't always know if my train is at Montparnasse Vaugirard or Montparnasse, they keep changing so at the moment I'll say half an hour in advance at least" (Laura, 22).</i></p>
<p>The image of the railway station/ perception?</p>	<p><i>"The train station is an open place, it's bothersome because there are draughts everywhere" (Stéphane, 41).</i></p> <p><i>"It's an intermediate zone to go elsewhere" (Saloua, 40)</i></p>
<p><i>The use of the mobile phone in the railway station</i></p>	<p><i>"I use my phone when I get to the station and if I stop for a moment" (Olivia, 46)</i></p> <p><i>"On my phone I look at Pinterest, cooking recipes, news media on twitter, or talk to my friends via WhatsApp and Snapchat." (Songül, 24)</i></p> <p><i>"I often listen to music on Spotify or watch movies or TV shows on Netflix." (Chadrak, 25)</i></p> <p><i>"I sit on my suitcase, if it's strong enough, in front of the billboard and watch a show on my phone... on YouTube, Netflix or Spotify." (Lucas, 24)</i></p> <p><i>"I use my phone to watch pre-downloaded episodes of Netflix series. Generally, I'm either on the phone with my friends via Messenger or walking around watching series on Netflix." (Laura, 22)</i></p>

	<p><i>"On my phone I'll be mostly on social networks, Instagram, Facebook or Messenger to chat with my friends...on the train I sometimes play (Sudoku or a puzzle) or watch a series, but not in the train station because I'm stressed to miss the train if I keep watching my videos. I prefer to watch my series or my movie once I'm well settled in the train" (Vanessa, 24)</i></p>
<p>The experience in the railway station</p>	<p><i>"At the Gare du Nord station, I always have a contemplative phase, especially with the panoramic view of the platforms, it's beautiful" (Laurette, 30).</i></p> <p><i>"During the waiting time I often look at my phone and I also look at the people around me because I am paranoid, I see strange people or people with strange or suspicious behaviour, I try to get away from them" (Songül, 24).</i></p> <p><i>"When I'm in tourist mode, I take the time to discover the train station and its surroundings, my goal is to discover, which never happens to me in Parisian train stations...When I was in London, I felt less stress than in Paris.. In Paris you have the feeling of stress, people jostle everywhere, travellers are super stressed I find, while in other countries it's the opposite, it's really ... the traveller is there to travel but quietly, he doesn't get upset, he does not need to push everyone, to walk fast, or even run to take his train. It is really two opposites, Paris and the rest, really two opposites. I think we have a lot of traffic in Parisian stations, we quickly feel oppressed because it's moving everywhere, everyone's in a hurry. Whereas abroad, there can be the same number of people but we feel more at ease" (Chadrak, 25).</i></p> <p><i>"It's not pleasant to walk around Montparnasse; people are often lost; there's no clear direction of traffic; there's a concentration under the billboards" (Laura, 22).</i></p>
<p>The commercial transformation of railway stations</p>	<p><i>"I'm not a fan of merchandising everywhere, but if it makes stations more attractive and more pleasant, yes, but I'm not necessarily for commercial galleries" (Bastien, 31).</i></p> <p><i>"Even if the offer has changed, mentally I don't have a very clear map of the shops at the Montparnasse train station" (Stéphane, 41).</i></p> <p><i>"The marketing side is not for me" (Marie Caroline, 50)</i></p> <p><i>"I think that the occasional traveller doesn't stop. They're looking for the way to the train and understanding how to get there. For me the shops (clothing or other) are more for people who are used to the fact or people who take commuter trains because they don't necessarily have a suitcase. It's much more convenient for them to make a little detour to the shop before they get on the train comparing to someone who has one or two suitcases and is going quite far away by the way. After all that is practical business (relay or other) I think that there it serves all passengers" (Laura, 22)</i></p>

THE EFFECT OF COMPANIES' COMMUNICATION OF DATA-USE AND HANDLING IN PRODUCT PRESENTATION

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Introduction

As in current days certain customized services are a result of customers' direct or indirect information-disclosure (e.g., Bleier and Eisenbeiss, 2015), the access to shopper information is a key advantage for retailers in today's business landscape (Wakefield 2013). Hereby, the exchange of data for certain added values is a highly discussed phenomenon in current literature, in which especially the support of personal data-disclosure decision through incentivitation leads to an intuitive weighting or mental processing of perceived benefits and risks (e.g., White *et al.*, 2014). Even if studies on the integration of incentives in context of data-disclosure show different levels of success (e.g., Premazzi *et al.*, 2010), customers' general positive 'motivation' through additional information or explanation regarding the data-use is often proofed (e.g., Benlian, 2015).

Recent literature agrees on the fact that information privacy is defined as a state of self-determination by a person, in which this individual is interested in substantial influence and control with regard to the collection and handling of individual personal information and where external actors have only limited access to the personal information of this person (e.g. Karwatzki *et al.*, 2017). Hong and Thong (2013) emphasize the relevance of customers' awareness of the data-handling in this context. Studies have shown that it should be in retailers' interest to minimize customers' privacy concerns, as those are determined for customers' dealing with a product presentation (Bleier and Eisenbeiss, 2015). As data-disclosure is generally negative related to customers' privacy concerns, the effect of the communication of personalized content might not follow this well-known pattern.

Purpose

According to Awad and Krishnan (2006) the desire for greater information transparency is negatively related to customers' willingness to be profiled. This phenomenon is referred to the 'personalization-privacy paradox' and is commonly accepted in the literature (Karwatzki *et al.*, 2017). As this rather contrary effect takes strong response in research, we assume vice versa that the communication of 'profiling' or data-collection in terms of smartphone use, emphasized by the incentive of personalized services, is not increasing customers' privacy concerns, but decreases them due to the fact that data-collection is omnipresent in current days and its communication (in contrast to a concealment) is perceived more positively. At this point, we see a relevant research gap as customers' perception of incentivitation on privacy concerns generally does not function as a signal for data-use and handling, potentially increasing customers' perception regarding the promotion or even reaction regarding the purchase of (or willingness to pay for) a product.

Conceptual framework

Information processing paradigm gives a deeper understanding of how consumers process information such as an environment or an object (Miller 1956). Environment-related characteristics can be associated with the (online) product presentation environment and object-related characteristics with the product (presentation). Literature shows that factors like incorrectness or incompleteness information lead to low-quality product perceptions (Everard and Galletta, 2005), which again might influence customers' reaction on the product (presentation). However, in the context of information on companies' data usage, the non-mentioning of data-use- and handling cannot be understood as incorrect, but, based on the fundamental knowledge of the customer, perceived as less informationally comprehensive, which is argued to trigger customers' privacy concerns.

Literature implies that customers are generally sensitive when it comes to questions on data-security and -use (e.g., Krafft *et al.*, 2017), leading to the assumption that the communication on data-use and handling might consequently reduce customers' privacy concerns. Especially with respect to the presented product, we are interested in customers' individually assessed (latent) risk of uncontrolled data-disclosure (e.g., Kisekka *et al.*, 2013) when it comes to the evaluation of the privacy concerns, the purchase intention as well as the willingness to pay (Fortes and Rita 2016). As privacy concerns depend on customers' level of perceived control of the data, we moreover implement customers' assessed (latent) risk of uncontrolled data-disclosure as a mediating variable. Privacy risks release are leading to a loss of control (e.g. Dinev and Hart, 2006).

According to our previous argumentation and in line with Krafft *et al.* (2017), we manipulated the presence of a communication on data-use and handling systematically. Accordingly, customers' processing on the reception of the presentation might differ, resulting in an immediate adjustment of customers' privacy concerns as well as of customers' purchase behaviour or (monetary) value perception (e.g., Chang and Wildt, 1994). In sum (figure 1), we hypothesis as follows:

- H1:** A given (vs. not given) communication on data-use and handling decreases (vs. increases) privacy concerns.
- H2:** A given (vs. not given) communication on data-use and handling increases (vs. decreases) purchase intention (H2a) and willingness to pay (H2b).
- H3:** Assessed (latent) risk of uncontrolled data-disclosure mediates the influence of communication on data-use and handling on privacy concerns (H3a), purchase intention (H3b) and willingness to pay (H3c).

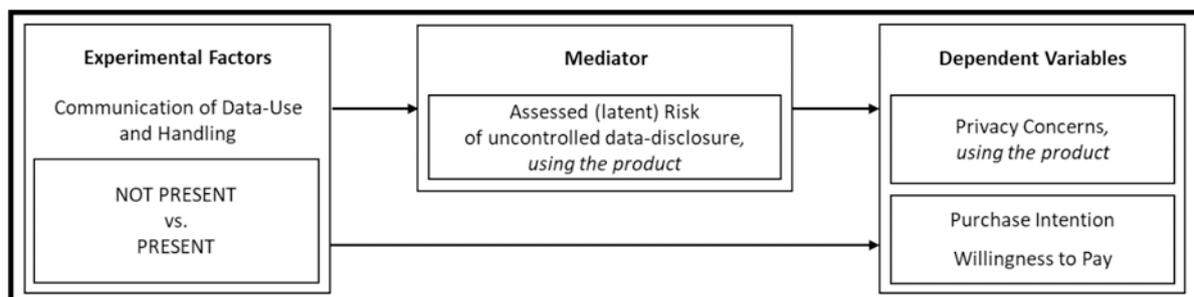


Figure 1. Research Model

Design/methodology/approach

An experiment with a two-factor between-subject experimental-design was conducted online. All scenarios were randomly assigned, and respondents were afterwards supposed to fill out a questionnaire. We manipulated the communication of service providers' data-use and handling as presented in figure 2. In case of a given communication, we additionally mentioned that data-collection through the smartphone is possible.

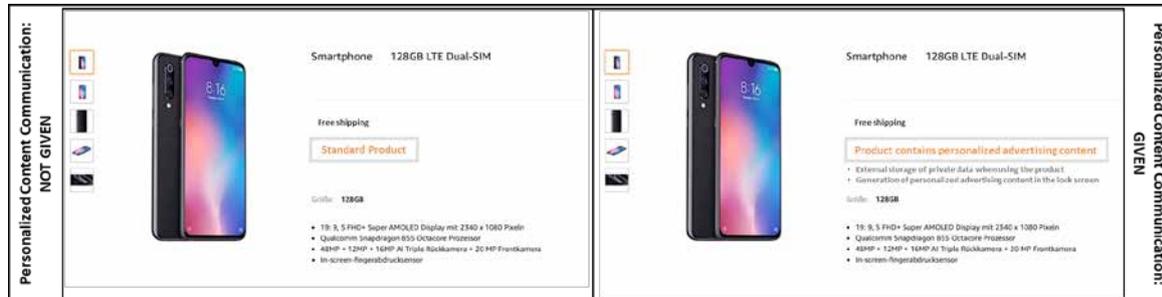


Figure 2: Experimental Design

To test our hypotheses, we measured all constructs on a seven-point-likert-scale (1='I do not agree at all'–7='I totally agree') or on a semantic differential. Privacy concerns was adapted by the scale of Dinev and Hart (2006) (four items; seven-point-likert-scale; $\alpha=.963$). Regarding purchase intention, we used the scale of Pavlou (2003) (three items, $\alpha=.946$). Willingness to pay was measured by giving a frame between 100€ and 800€. With respect to the risk of uncontrolled data-disclosure we adapted the scale of Campbell and Goodstein 2001 (four item; likert-scale; $\alpha=.942$). All participants' responses were mean aggregated.

We eliminated the subjects with an above average affinity (>4) towards personalized product presentation content. In the final data-set, 174 subjects (women: 58.05%) with an average age of 29.13 (SD=9.30) years were included. All scenarios were equally distributed with respect to age, gender and overall privacy concerns. Regarding our manipulation, we used a single item on whether the respondents understood the presented content correctly with respect to the window including the aspect on data-use (personalization-content) as well as the information on data-handling. Finally, we controlled for general privacy concerns was again adapted by the scale of Dinev and Hart (2006) ($F(1, 172)=.306, p=.581$) and general affinity towards smartphones ($F(1,172)=.844, p=.359$) of our respondents. Overall, we did not find any systematic distortion between our treatments.

Findings

In order to test the hypotheses, we conducted several ANOVAs to analyse our hypotheses (table 1).

Dependent Variables	Communication on Data-Use and Handling	Mean (SD)	F-Value (η^2)
Privacy Concerns, using the product	NOT PRESENT (N = 86)	5.28 (1.51)	8.129**
	PRESENT (N = 88)	4.60 (1.62)	(0.045)
Purchase Intention	NOT PRESENT (N = 86)	2.72 (1.68)	4.727*
	PRESENT (N = 88)	3.25 (1.52)	(0.027)
Willingness to Pay	NOT PRESENT (N = 86)	430.22 (182.82)	3.192°
	PRESENT (N = 88)	384.31 (155.35)	(0.018)

°p < .1; *p < .05, **p < .01, ***p < .001

Table. 1: Results of ANOVA-testing

Findings generally imply that the communication on data-use and handling seems to have a significant effect on privacy concerns as well as on purchase intention, however the influence on willingness to pay is not significant. Nonetheless, the tendency on the latter goes even contrary the results on privacy concerns or purchase intention. Results generally support our assumptions towards an empirical confirmation of H1 and H2a, but not (completely) by of H2b.

Concentrating on the proposed mediating impact of assessed (latent) risk of uncontrolled data-disclosure (H3) on the relationship between the communication on data-use and handling and the dependent variables, we conducted multiple analyses of covariance (ANCOVAs) based on Hayes and Preacher (2013). Hereby, we followed the causal steps approach of Baron and Kenny (1986). Given a general effect within step one, step two (assessed (latent) risk of uncontrolled data-disclosure: $M_{\text{not_present}} = 4.51(1.49)$; $M_{\text{present}} = 3.95(1.49)$; $F(1,172) = 6.221$, $p < .01$, $\eta^2 = 0.035$) and three were also significant. In a fourth step, we identify a MS-decrease regarding privacy concerns and of purchase intention. MS of willingness to pay, did not show any decrease here. In sum we could support H3a and H3b, but not H3c.

Original/value

We are able to show first approach towards the differentiated form of information processing with respect to the used manipulation. In fact, customers seem to build a comprehensive picture out of the presented information, confirming information processing paradigm in this context (Miller 1956). Moreover, we are able to extent Awad and Krishna (2006) as the clear information of being profiled causes a decrease of privacy concerns. Moreover, this effect is fully mediated by assessed (latent) risk of uncontrolled data-disclosure. Risk evaluation through the product seems to be a decisive factor in this context, as it seems to be more present for the customer in case of a communicated data-handling and -use.

Moreover, results go in line with Everard and Galletta (2005), who showed similar negative effects of a qualitatively 'inferior' respectively informationally less complete product presentation on customers' perception and reaction. Interestingly, customers show an ambivalent behaviour, facing a higher interest to purchase, but a lower willingness to pay. One might conclude that this contrary effect can be traced back to a certain form of mental processing respectively calculation on perceived risks (data-disclosure) and benefits (lower price of the product) which is manifested by a lower willingness to pay for it. This divergence stands in contrast to the common knowledge on the generally positive relation of price/value and purchase intention (e.g., Chang and Wildt, 1994). We emphasize a contrary perception of the customer regarding common outcome variables, as we assume that customers might perceive the communication of data-use and handling in two steps: first, the completeness of the service provider is rewarded, followed by, second, some form of assumed scepticism, expressed in a lower monetary valuation. One explanation might be customers' underlying sensibility, malaise and inner-conflict, which is still carried around when it comes to data-related disclosure and customers underlying mental processing on benefits and risks.

Practical implications

Findings emphasize the importance of a clearer communication of data-use and -handling in context of product presentation. As is should be service providers' as well as retailers' aim to pursue a satisfactory exchange of data for both parties (Culnan and Armstrong, 1999), the

integration of the underlying data-use and handling seems to be a relevant aspect in order to enhance the purchase of a product.

However, the addressor of these product presentations needs to take into account that the purchase- and data-related out/income could be a rather short-term company objective, whereas in the middle- to long-run more concrete financial indicators come to play, followed by determinants like loyalty or a positive word-of-mouth. Out of a strategic perspective, service providers as well as retailers need to evaluate their individual value from these kinds of product presentation. In this line it should moreover be verified, how risk of uncontrolled data-disclosure can be useful for the company.

Regarding purchase intention, this risk needs to be balanced in order to generate data on the one side but hold purchases on a constant level. Especially this weighting brings a great potential for future companies' success, however, future research might need to spend more focus on this aspect, in order to evaluate to what extent a company can force this process.

Research limitations and outlook

A deeper analysis on the psychological phenomenon of postulated perception of an intuitively expected or even well-deserved monetary compensation for the disclosed data is required. As the data-collection is carried out in the background and customers generally show a rather positive reaction, at least on its communication, the level of mental accounting is additionally of interest and might depend on further factors as the amount of information within the product presentation, certain affective influences, as pleasure or dominance (Mehrabian and Russell, 1974), or certain characteristics with respect to the customer (e.g., Awad and Krishna, 2006). In our study we point out that the perceived risks might be balanced out by about 45€ (430.22€ vs. 384.31€), nonetheless different influences might increase or decrease this cap. In fact, the actual value of the perceived data for the company with respect to an assigned price needs more focus. The incentivation through a monetary (perceptual) discount (e.g., Premazzi *et al.*, 2010) or information on the use of the data for exemplarily insurance-purposes might change customers' behaviour.

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Keywords

Product Presentation, Data-Use and Handling, Privacy Concerns

A PROCESS MODEL FOR THE SELECTION OF SOCIAL MEDIA CHANNELS BY MEANS OF INFORMATION QUALITY ASSESSMENT OF FASHION BLOGS FOR APPAREL SUPPLY CHAINS

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Abstract:

Purpose: This paper targets the development of an artifact designed as a process model for the selection of adequate social media channels considering social media characteristics, in particular, the veracity feature, for fashion and apparel supply chains.

Methodology: The research is based on a Design Science Research approach and follows the Design Science Research Methodology Process Model. The main activities of that Process Model described in this paper are the design & development of the artifact, a demonstration of its use, as well as a presentation of the evaluation approach by focusing on the determination of possible evaluands.

Findings: Channel selection on upper and on media level are the two main processes developed both including the application of information quality dimensions.

Practical implications: The artifact developed enables fashion and apparel supply chain stakeholders to select social media channels in a systematic approach. This approach will provide them richer data in terms of quality aspects.

Originality: In contrast to most existing research, the value of this paper lies in particular in the consideration of social media characteristics, while using social media based sources for fashion and apparel supply chains. A systematic selection of potentially relevant social media channels for supply chain stakeholders by means of information quality dimensions is put forward. Moreover, the use of the artifact is demonstrated in a case study where the artifact is applied on real world fashion blogs.

Keywords: fashion and apparel supply chains, social media characteristics, information quality assessment, veracity

Introduction

The fashion industry faces challenges in meeting the demand of the customers. Often retailers are confronted with losses due to stock-outs or overstocked inventories (Fisher and Raman,

2010). Besides, the demand for fashion is impacted by various factors such as changing weather conditions, celebrities, events, holidays or the general economic situation (Thomassey, 2010). A crucial challenge is that most fashion products are highly short-lived compared to their long time-to-market. Most production plants are situated in countries such as China, Taiwan, India or Bangladesh. Lately, even these countries are turning too expensive for companies due to an increased standard of living and higher salaries. Consequently, the first firms have started to locate some production plants to African countries such as Ethiopia or South Africa (NTV.de 2015). Though, the target regions are often European countries or the United States. Therefore, retailers are confronted with long transportation and shipping routes. In traditional retailing, reproducing good selling items during a current season is hardly possible or rather solely with additional costs. These circumstances result in high uncertainties for the respective stakeholders.

In order to deal with this uncertainty, the exploitation of additional information sources is put forward. In this regard, big data and big data sources are increasingly discussed as a formidable opportunity for decision makers in logistics and Supply Chain Management (SCM) (Waller and Fawcett, 2013). Hence, the use of big data analytics in supply chain (SC) has been studied by different researchers (e.g. (Awwad et al., 2018; Fosso Wamba et al., 2018; Tiwari et al., 2018)) and practitioners. The utilisation of big data analytics, with its variety of sources and techniques such as the Internet of Things, cloud computing, wireless sensor networks and social media, is considered to have a huge impact on SCM and logistics (Tiwari et al., 2018; Waller and Fawcett, 2013). In the fashion and apparel SC context, in particular, social media-based sources are increasingly gaining relevance as in Cui et al. (2018), Boldt et al. (2016), Itikhar and Khan (2019) or See-To and Ngai (2018). Kaplan and Haenlein (2010) define *social media as a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content*.

In this regard, social media analytics has been emerged and deals with handling social media data. Although in the field of social media analytics, the consideration of social media characteristics is recently gaining an increased relevance, existing approaches on the use of social media in fashion SC hardly consider the characteristics of social media. In this regard, in particular, neglecting the veracity factor can have large impacts on decision making. The quality assessment of social media data plays a fundamental requirement while harnessing data from social media-based sources. This is aligned with Hazen et al. (2014) bringing out the importance of considering the garbage in garbage out-problem about big data for SCM, and emphasise the monitoring and controlling of big data quality. Moreover, it is notable to mention that huge impacts on data quality were brought already by the internet as collecting and sharing information had been fundamentally changed. This impact is increased through User-Generated-Content (UGC) published on social media (Borchers, 2009). A quality-based assessment of social media data turns more crucial when the extracted data is used for decision-making since poor data and information quality have an impact on it (Redman, 1998). Data quality research (Wang and Strong, 1996) suggests a range of dimensions for assessing the quality of data. However, these dimensions are developed to be applicable to transactional data and not on social media data.

Given this problem, we frame the following research question in this paper:

RQ. *how to select social media channels for decision processes in fashion and apparel supply chains considering social media characteristics?*

The RQ is framed in a Design Science Research-based approach, particularly following the Design Science Research Methodology Process Model (DSRM). The objective of our research is to introduce an artifact designed as a process model for the selection of adequate social media channels considering social media characteristics, in particular, the veracity feature. In this regard, the main focus of the paper is the illustration of the design & development and the demonstration of the artifact. Moreover, the elaboration of the evaluation approach, which tackles the utility of the artifact is prominently presented. The focus of the evaluation approach illustration is the determination of possible evaluands targeting at fast fashion and luxury markets. The rest of the paper is structured as follows. Section 2 presents a short overview on the use of social media-based sources in fashion and apparel SCs. Before illustrating the methodology conducted, the analytical framework in which social media characteristics are elaborated is shortly illustrated. The methodology section gives a short overview of the DSRM, and illustrates the implemented steps design & development, demonstration and presenting the targeted approach for the evaluation. The rest of the paper follows then the defined DSRM structure. The design & development of the artifact as well as its use is shown by a demonstration follow in the proceeding sections. The evaluation methodology is shown with a focus on the determination of the evaluands. This is done by a comparison of fast fashion and luxury processes. Thereafter, a conclusion and an outlook for future activities are drawn.

Literature Review

In literature, a range of work exists focusing on the use of social media-based sources for fashion SC processes. Cui et al. (2018) is one of the main works conducted on the use of social media information in fashion sales forecasting. In this work, the operational value of social media information by incorporating social media information in sales forecasting is examined, and the quantification of this value is put forward. Using publicly available social media information from the company's official Facebook site and operational data from an apparel company. Similarly, Boldt et al. (2016) integrate social media data for the sales forecasting of sports apparel using Nike's ten most active Facebook pages based on total likes. The authors outline a high forecasting accuracy for some of the simple regression models. A different approach is conducted by af Rosenborg et al. (2017). In this work, the relation between the activity of HM's Facebook page and the financial performance of the company by considering total posts, comments and likes numbers, and a relationship between the Facebook data and corresponding business data is examined. Apart from Facebook, fashion blogs are discussed as a further potential source for SC processes. Fashion blogs are the biggest group amongst the blogosphere Halvorsen et al. (2013). Fashion bloggers has gained increased relevance from the fashion industry and are considered as opinion leaders or influencers (Uzunoglu and Misci Kip, 2014). A weblog-text trending approach is introduced by Rickman and Cosenza (2007) focusing on catching the actual *buzz* from the fashion posts. The authors concluded that for the use of fashion blogs for trend forecasting purposes, different development is needed such as rich accumulation of fashion communication or the acceptance of fashion bloggers by the marketers. In this research, it is claimed that both developments have occurred within the last years. In this context, Beheshti-Kashi et al. (2015) introduce the TrendFashion tool for the collection and analysis of fashion blog posts and focus on the identification of fashion trends for supporting forecasting decisions. Another research examines Italian fashion blogs, and real-world data from an Italian retailer identify for some colours that of both data sets correspond (Beheshti-Kashi et al., 2016). Beheshti-Kashi et al. (2018) illustrate a decision-support case in the social media analytics framework using fashion blogs. The potential of fashion blogs in fashion and apparel SCs are showcased, and the potential benefits of SC stakeholders, in particular fashion buyers, are discussed. The authors report that the development of some fashion topics was observable.

Focusing the current literature on the use of social media for fashion and apparel, it turns evident that social media characteristics in general are hardly considered. This is particularly true when it comes to the selection of social media channels. A channel is selected without considering others and without following a predefined approach. Furthermore, the peculiarities of fashion and apparel SCs are hardly considered while selecting social media data. In particular, the veracity feature is neglected in most literature.

Analytical framework

As social media is considered as a big data source referring to *social media big data* (Lin, 2015) or *social big data* (Guellil and Boukhalfa, 2015), this research assumes that the 5 Vs characterising big data, volume, velocity, variety, veracity, and value, may also apply to social media data. Applying these five characteristics for describing social media data is in line with Stieglitz et al. (2018). Table 1 gives an overview of the social media characteristics.

Table 1: Social Media Characteristics

Volume and velocity	<ul style="list-style-type: none"> - Massive amount of data is published in real-time - Publishing is independent of place and time
Variety	<ul style="list-style-type: none"> - Social media data is abundant - Examples for the richness of data are textual data, tags, metadata, network data (Hu and Liu, 2012).
Veracity	<ul style="list-style-type: none"> - Slow barriers for use, no skills required, not filter (Agarwal and Yiliyasi, 2010) - source of published content on social media is often unknown or unidentifiable
Value	<ul style="list-style-type: none"> - Proper handling required to obtain value (Marr, 2015)

These two facts, together combined with automated communication through chatbots, illustrate the importance of considering the veracity feature while exploiting social media data. Lukoianova and Rubin (2014) define veracity with the three categories credibility, objectivity, and truthfulness. A crucial factor is that the source of published content on social media is often unknown or unidentifiable. This leads to the critical challenge of measuring the believability of content posted on social media (Shankaranarayanan and Blake, 2017). Believability is a multidimensional construct consisting of different dimensions. The source credibility is one part which determines the believability of data (Wang and Strong, 1996).

Based on this analytical framework with the focus on the believability of data, the next section presents the conducted methodology.

Methodology

Design Science Research Methodology Process Model

The DSRM is introduced by means of a process model and defines six activities: identify problem & motivate, define objectives of a solution, design & development, demonstration, evaluation and communication. Once the problem has been set and the research has been motivated, the objective of the solution is formulated. Based on this, the artifact is designed and developed. Within the demonstration, a proper context should be derived, and the artifact used to solve the problem. After that, the utility of the artifact is evaluated. The last step of a DSRM, is its communication, which is realised through scientific or professional publications. Although the process is structured in a nominal sequence Peffers et al. (2007) advocate a context-dependent choice for starting the research based on the initial idea. That is, the DSRM

defines four different entry points to the research that are problem-centered initiation, objective-centered solution, design & development-centered initiation as well as client/context initiated.

Proposed methodology

The DSRM applied to the present study focuses on an artifact of a suitable selection of social media channels and involves the following activities. The entry point of this research is a problem-centred initiation. In this way, the DSRM is followed in its nominally sequential order starting with identifying the specific problem and illustrating the relevance of the importance of the research. This is conducted in the introduction. Based on the problem definition, the objective of a potential artifact is elaborated at the end of the literature review. Due to the interdisciplinarity of the presented approach, it is required to glance at different concepts. The design & development involves the creation of the artifact. This is followed by the demonstration of the use of the artifact. The fifth activity, the evaluation of the artifact is not conducted yet. However, in this paper, one possible evaluation approach of the artifact is elaborated and illustrated.

Design & Development

Design & development is the third activity in the DSRM, and it includes the creation of the artifact. An artifact can have different forms such as constructs, models, methods or instantiations (Hevner et al., 2004). The first step of designing the artifact involves the elaboration of requirements. This is done by elaborating on the characteristics of social media and social media data, and the challenges involved in dealing with social media data. The artifact created is designed as a process model. Process models have different features, one of which is the level of formalisation (Filß et al., 2005). Formalisation enables the representation of complex processes with all relevant elements such as data streams, events, branches or roles (Allweyer, 2015). Notation languages are a typically used in formalisation. This research uses Business Process Model and Notation (BPMN) for the visualisation of the process model.

Demonstration

According to Peffers et al. (2007), a range of methods are applicable for demonstrating the use of the developed artifact. These may involve simulations, experimentations, proof or case studies. For this research, a case study method is considered as the suitable method for demonstrating the utility of the artifact, since a case study approach is especially suited for explanatory examinations in which the phenomenon has not been sufficiently explored (Meredith, 1998).

The case study features are based on the following reflections. In order to be reliable, the law of large numbers needs to be applied, which in turn requires a large dataset. As the sales volume of menswear is typically much lower than that of womenswear, we targeted the latter in our case study. Due to the availability of sales data in Germany, we additionally considered the German market and German blogs targeting women only. Lastly, to keep our case simple yet realistic, we focused on the essential feature in textiles and apparel, which is the colour. The definition of the case study features is highly relevant in the context of defining measurable features for the information quality dimension relevance. A summary of the case study features is presented in Table 3.

Table 3: Case study features

Case study feature	Value
Target group	Women
Product type	Women's outer apparel
Product feature	Colour
Language	German

Location	Germany
Time	2015-2016

Evaluation

In the light of DSR, Venable et al. (2012) propose a framework for the evaluation of DSR based on Hevner (2004) and Peffers et al. (2007). The framework includes four main steps which are the following: Analyse requirements for evaluation, map requirements to criteria on the "DSR Evaluation Strategy Selection Framework", select suitable evaluation method(s), design evaluation in detail. The objective of the first step is to analyse the requirements for the evaluation. The definition of the requirements is the base for the entire evaluation. The first step includes the determination of the evaluands, the nature of the artifact, the properties to be evaluated or the purpose of the evaluation. These requirements will be mapped to the criteria of the DSR Evaluation Strategy Selection Framework. Venable et al. (2012) proposes an ex ante vs ex post and artificial vs naturalistic evaluation scheme. Within this classification a number of criteria are formulated which needs to be analysed against the requirements defined in the first step. The mapping serves the definition of the evaluation strategy on a high level. It does not imply the selection of specific evaluation methods. After defining the evaluation strategy on this high level, the next step is to select specific evaluation methods (Venable et al., 2012). The final step of this method, based on the selected method(s), requires the design of the evaluation, for instance, in the form of a questionnaire. Figure 1 depicts these four steps and shows the corresponding settings for this research.

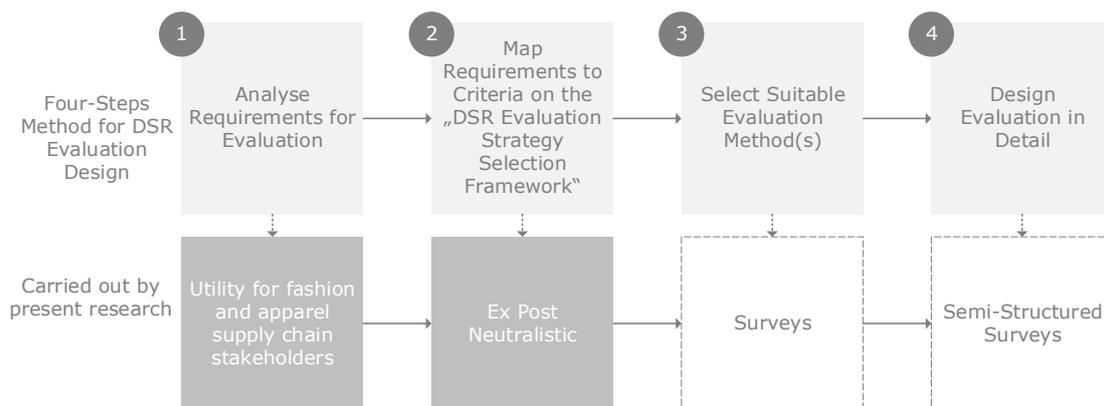


Figure 1: Four-steps method for DSR Evaluation Research Design by Venable et al. (2012) applied on presented research

The evaluation of this work is one of the next steps. The description of the evaluation methodology focuses on the determination of possible evaluands, which is the first step of framework followed for the evaluation. In this context, fast fashion and luxury retailing SC processes are compared.

Design & Development

This current research builds upon Beheshti-Kashi (2020), in which the foundations of the process model are created, as displayed in figure 2.

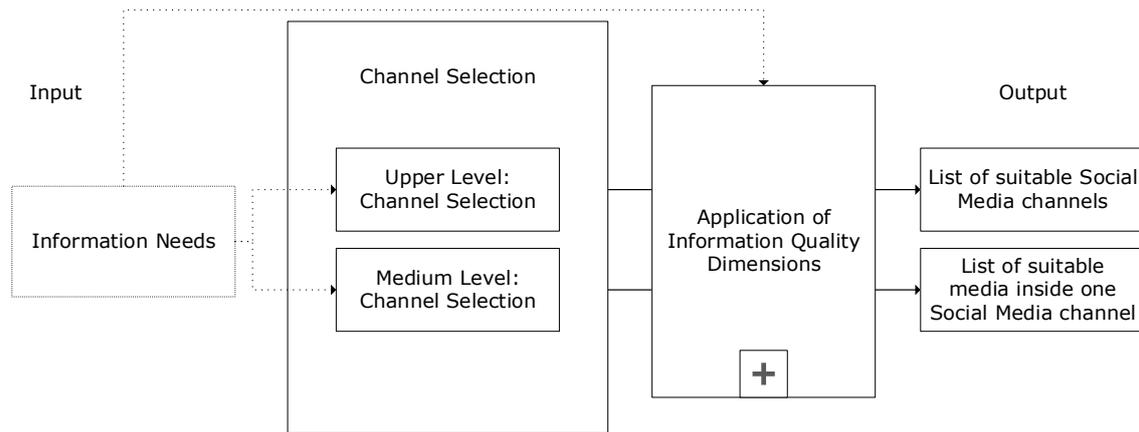


Figure 2: Overview Channel Selection (Beheshti-Kashi, 2020)

The main processes required for selecting suitable social media channels are the channel selection on upper and on media level. The leading question in this regard is: Which social media channels are relevant in the context of the defined objective and information needs of the stakeholders. The selection of these channels is conducted by the application of Information Quality Dimensions. The overall concept of the channel selection was formalised by using BPMN 2.0. In this regard, figure 3 displays the channel selection on upper level.

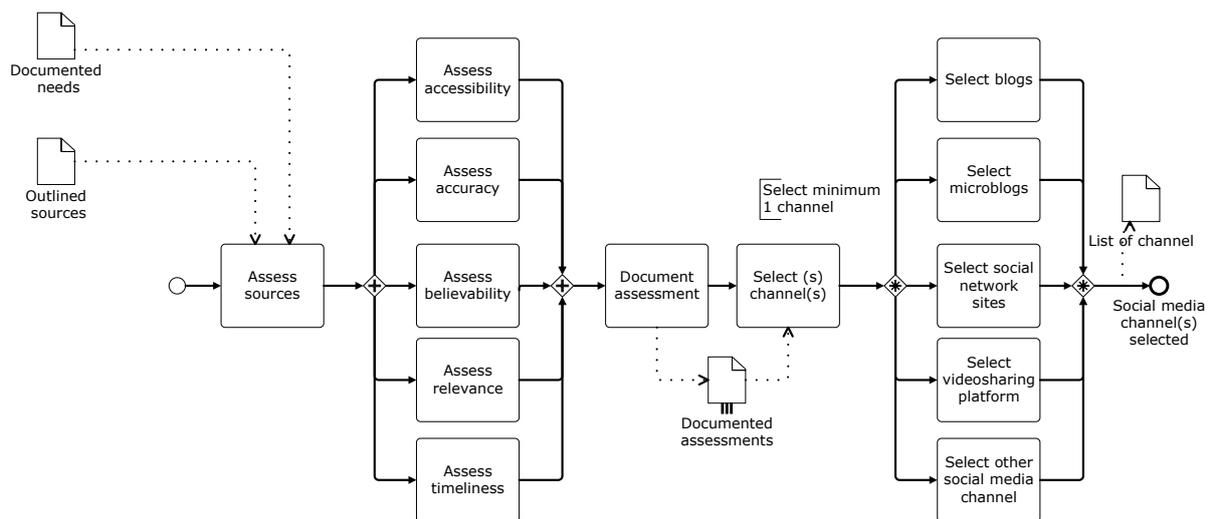


Figure 3: Channel Selection on upper level

After the selection of suitable social media channels at the upper level, the media selection is followed. As each social media channel has its individual functionalities and structures, this selection can be related to accounts, websites, hashtags and influences. The media selection approach is illustrated in Figure 4. It includes two main stages. While in the first stage sub-categories for the quality dimensions are defined, in the second, measurable features are determined. These two stages are required since the quality dimensions are not directly measurable.

Demonstration

The process model developed for the selection of adequate social media channels is applied to a case study. The following two sections present the applied channel selection on upper and on media level.

Channel selection on upper level

The channel selection on upper level was conducted on fashion blogs, social network sites (exemplary Facebook) and microblogs (exemplary Twitter) for the dimensions accessibility, believability, relevance and timeliness.

In terms of accessibility, the content published on fashion blogs is freely accessible. The access barriers are low as there is no need for registration. Furthermore, fashion blogs often provide an archive in which older post can be accessed. However, this functionality is not available on all blogs. Lastly, posts are often published in more than one language, which broadens the accessibility. In contrast to fashion blogs, the accessibility of social networking sites is often limited. Content is freely accessible through the official developers API¹. Moreover, registration is required. In terms of legal barriers, only public accounts can be accessed, and only the level of privacy which they have granted can be accessed. It should be noted that everything but the official API² is illegal and accordingly violates the copyrights. In terms of technical barriers, extraction is limited to one URL at the time. Keyword search is not possible. Similarly, to Facebook, the microblogging service Twitter provides an official API for accessing the data. However, there are some limitations which have to be noted. In terms of legal barriers, everything but the official API³ is illegal and accordingly violates the Twitter copyrights. In terms of the technical obstacles, it is notable that for "normal users" there is no access to historical data older than seven days over the official API⁴. Moreover, the official API returns only a sample of tweets (ca. 1 pct.). One further access option would be purchasing tweets.

In terms of believability, the three categories identity, expertise and reputation are considered and elaborated on with regard to how these categories may be approached on the different channels. While in terms of reputation, all three channels provide structural elements to measure the reputation and potential influence on the community, expertise, but in particular the identity assessment is more transparent on fashion blogs. Fashion blogs often provide a section on the author(s) where personal information on the blogger is published. Furthermore, the engagement in other social media channels is easier to track as mostly social media icons of corresponding channels and links are transparently available. This enables an easier tracking of general consistency in terms of identity. Moreover, Twitter and Facebook are more vulnerable to fake accounts.

Although the relevance assessment is highly contextual, at a higher level the availability of fashion-related content can be elaborated on for assessing the relevance for the upper level channel selection. As a main topic in fashion blogs is fashion, the relevance of this channel is considered compared with Facebook or Twitter. On which of course fashion related content is available.

In terms of timeliness for fashion blogs often a time stamp is available on post level. Moreover, time stamps are available at the user comment level. For Facebook and Twitter, timestamps are available as meta data. On Facebook timestamps of likes and shares cannot be accessed (Cui et al., 2018).

¹ <https://developers.facebook.com/>

² <https://developer.twitter.com/en/developer-terms/agreement-and-policy.html>

³ <https://developer.twitter.com/>

⁴ <https://developer.twitter.com/en/developer-terms/agreement-and-policy.html>

Channel selection on media level

While as the first task of the channel selection, sub-categories are defined for the dimensions relevance, accessibility and timeliness, for the believability assessment, the features identity, expertise and reputation are already set. The required ranking for the given case study is as follows: relevance, believability, timeliness and accessibility.

Relevance Checking:

Concerning the "fitness of use" definition, the relevance is defined following the case study scope and features (see Table 3). For each of the case study features, it was checked whether the particular feature of the blog met the defined value. e.g. target group equal to women. The relevance is only proven if the four features of the blog are correct, that is that they match to their respective values. In this case, the blog is included in the fashion blog corpus. Otherwise, the blog is dismissed. This information dimension is defined as hard.

Believability assessment:

For operationalising the believability dimension, source credibility is used as the main factor constituting this dimension. The credibility of a source is proven when the source shows all identity, expertise and reputation. In order to test if these three components are confirmed, each one of the three components must be broken down into measurable features. For this breakdown, the features are designed in a manner that a binary assessment is possible. For the assessment, the domain expertise of the data consumer plays a crucial role as its expertise will contribute to the assessment of the source credibility.

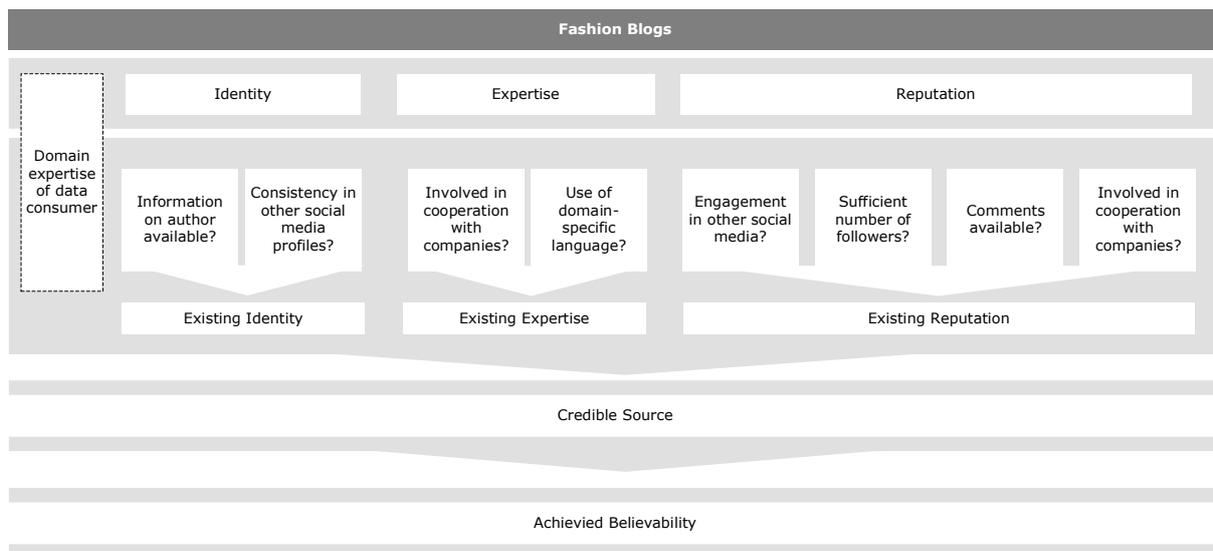


Figure 5: Believability assessment

The overall process is displayed in figure 5.

- **Identity:** The process starts by checking the identity of the source based on the availability of author information. For assessing the identity of the source, the availability of author information was reviewed. Other social media platforms were also checked to monitor the consistency of the different social media platforms on which the author was present. Since most of the blogger provide links to their social media engagement, these links were followed.
- **Expertise:** Subsequently, for assessing the expertise of the source, we inspected the involvement with companies, as it was assumed that these cooperate with bloggers to whom they assign expertise. For this purpose, the availability of sponsored posts or

affiliated links were examined. Moreover, the domain-specific language was checked as its use considered to show the expertise in the field of fashion.

- Reputation: For assessing the reputation, four features were checked. First, the engagement of the blogger in other social media was checked. Bloggers usually link their other social media engagements on their blogs. These links were used for assessing engagement in other social media. Other indicators for the reputation are the number of followers and friends. Moreover, the availability of comments on published posts was assessed. Similar to the expertise assessment, the cooperation with companies was considered as an indicator for the reputation of the blog. It is assumed that companies preferably cooperate with bloggers who have a broad reach and enable coverage to potential customers for the companies.

The overall believability assessment was conducted through the perspective of the data consumer who is the domain expert, and, who is thus able to assess the information regarding the described fashion related topics by her/his knowledge and expertise. When identity, expertise and reputation had been proved, the blog was considered to be a credible source. Thus, data believability is achieved, and the blog included in the fashion blog corpus. The result of the believability assessment was that all of the blogs had passed the assessment.

Timeliness and accessibility checking:

After the believability assessment, the timeliness dimension was checked. For this purpose, the availability of a complete time stamp on blog post level was examined. In case, it was not available, the availability of time-related components on the post URL level was checked.

Finally, it was checked if the posts could be extracted with reasonable effort. Following this proposed methodology, a fashion blog corpus consisting of 46 individual blogs was created.

Proposed Evaluation approach

Based on the DSR Evaluation Strategy Selection Framework (Venable et al. 2012), a naturalistic and ex-post evaluation is selected as appropriate for the evaluation of the presented process model. Following this evaluation strategy, real users of the artifact developed should serve as evaluands. At this stage of the research, we will focus on the determination of the evaluands. Fashion markets are highly complex and diverse considering their SC strategies, and configurations implemented. These settings result into differences in lead and time-to-market times, as well as in range building processes. Due to this situation, it is worthwhile glancing at the determination of potential evaluands, before conducting the actual evaluation. This could be done, by, for instance, elaborating on fast fashion retailing and luxury markets. This is done in the following sections.

Fast Fashion Retailing

Fast fashion retailers strategy is oriented towards customers' demand and targets at responding to market changes in a timely manner. This demand is often tracked through sales data captured in the stores. In addition, mostly small and medium volumes are produced. In contrast, traditional apparel retailers place large quantities. Often fast fashion retailers follow a backward vertical integration. This strategy enables the companies to manage the different steps from design to distribution. Commonly a large portion of the SC is owned by the retailer, and the rest is usually controlled due to close distances. One significant difference between traditional and fast fashion retailing is the difference in lead times. Traditional retailing is characterised through long lead times, taking up to 29 weeks from the first design to the delivery to the stores. In contrast, fast fashion retailers take 15 days, including the shipping to the stores. Also, concerning forecasts traditional retailers act differently: they do generate predictions before the selling season. Whereas fast fashion is more closely to the season and also base often real-time

data from their stores to meet the demand of the customers. Though, regularly products are not replenished like in traditional retailing, where often replenishment is activated on an automatically based on the remaining level of supplies. Similar to the forecasts, designs are also forecasted 18-24 months before the selling season (Hines and Bruce 2014). For fast fashion, designs are often based on current runway fashion shows. Due to this strategy, it is evident that the fabrics have to be available in "grey" and not already coloured, to be able to flexibly react to the catwalk designs during the season (Ghemawat and Nueno 2006). At this point, most fast fashion companies follow a postponement strategy. Moreover, concerning target groups differences occur: often female consumers between 16-24 years are the core target customers in the case of fast fashion. Reasons for that might be the fact that catwalk designs are offered by affordable prices. Therefore, young women who cannot afford higher prices can purchase these articles and also be up to date. In regard to the quality, fast fashion companies do not claim highly qualitative garments; since they are clothes to be worn ten times (Ghemawat and Nueno 2006). In the context of fast fashion, Zara is often referenced. Zara is owned by the Spanish textile company Inditex and is often considered to be the innovator of fast fashion (Hines and Bruce, 2014).

Luxury markets

The luxury market is often considered as the counterpart to fast fashion retailing. Though luxury markets are not homogenous. In order to compare fast fashion strategies with luxury markets, we need a more in-depth insight into this market. Table 4 gives an overview of variables and characteristics defined by different authors to classify luxury markets and products. It shows the variables positioning on the market, products and duration of the shelf time, which is measured in seasons or weeks.

Table 4: Classification of luxury markets and products

Classification Variables	References	Characteristics
Positioning on the market	Catry (2003)	Exclusive goods, limited editions
	Silverstein/Fiske (2003)	Addition of new luxury'
	Beverland (2004)	Mass level, Premium, Super-Premium Icon level
Products	Altagamma (2008)]	Absolute luxury products, aspirational luxury products, accessible luxury
	Brun/Castelli (2015)	Addition of Mass-market goods
Shelf time (weeks/seasons)	Brun/Castelli (2015)	Continuative , seasonal, fashion items
	Jacobs (2006)	Fashion products, continuative products

As a general aspect, Fernie et al. (1997) state that most luxury companies provide besides to their 'haute couture' also 'diffusion lines' to reach a broader range of customers. These lines often differ in price, quality and volumes. Also, diffusion lines are mostly outsourced to Asian countries, while luxury lines are often manufactured in-house (Brun and Castelli 2015). However, values such as craftsmanship, high-quality products, originality of design and exclusivity of the products are common values (Fionda and Moore 2008).

Fast Fashion vs Absolute Luxury

This section presents a comparison between luxury and fast fashion along the SC processes: design, sourcing, manufacturing, distribution, and replenishment. Table 5 highlights the most relevant aspects. Luxury markets are not homogenous. For the purpose of this comparison, absolute fashion is considered as the counterpart for the fast fashion strategies. The design process also includes the stage of identifying or setting a fashion trend. This initial step differs widely in both cases. In most luxury companies designers work independently on their designs, while in the case of fast fashion, usually designers are organised in teams. Besides the different organisational structure, also the process differs.

Table 5: Luxury versus Fast Fashion.

Processes	Luxury	Fast Fashion
Design	Single Designers Originality of designs Setting a trend	Design Teams Interpretation of catwalk design Tracking and following customer demands
Sourcing	Established relationships High quality	From external suppliers Quality of fabrics not the focus
Manufacturing	Often outsourcing to national companies Importance of craftsmanship	Often offshored Product related strategies
Distribution	Established relationships, mono branded stores, official resellers	Central distribution centers, selling in own stores
Replenishment	Difficult due to long lead times	Not always desired

Luxury designers focus on the originality of their work, whereas one purpose of fast fashion retailing is to interpret the catwalk's designs and make them accessible for the masses. Therefore, the originality of the design is considered as one differentiating aspect. An additional relevant factor is the fact on what the demand is based on. Often haute couture and luxury designers' intention is to set a trend and to create the need for their designs. In contrast, fast fashion companies follow a different strategy. These firms often consider their sales data which is tracked daily from the stores, as one crucial aspect for identifying the demand. Therefore, fast fashion usually follows a buyer-driven approach in the case of demand identification (Ghemawat and Nueno 2006). Luxury companies often have established relationships to their suppliers. One crucial factor is the quality of the fabrics and materials. To ensure the quality, investments in the infrastructure of the suppliers are not a rare strategy of luxury companies (Brun and Castelli 2015). Fast fashion companies often have more significant numbers of external suppliers. One crucial difference is dealing with the dyeing process. In the case of fast fashion, usually, a large portion of the dyeing is conducted during ongoing seasons to act responsively to market changes (Ghemawat and Nueno 2006). In contrast, luxury companies often finish this process before the season. Manufacturing in fast fashion mostly is offshored. Though it depends also on the companies. For instance, Zara follows a twofold production strategy depending on the product itself. Time-sensitive products are often produced in Spain/Portugal, while price-sensitive products are manufactured in Asian countries. In the case of absolute luxury, outsourcing is followed, but often to national high qualified companies since the craftsmanship still plays a crucial role (Ghemawat and Nueno 2006).

Zara, for instance, owns a central distribution centre in the North of Spain where all products whether they are produced in-house or outsourced/offshored has to be passed through. Often the garments are sold in their stores. Luxury companies often sell their products in mono-brand stores either owned or franchised stores. Often also they work with official resellers (Brun and Castelli 2015). In regard to replenishment strategies, most fast fashion companies follow the principle that there is no need for replenishment. With this strategy, they want to give the feeling of limitedness to their customers and want to attract them more often to their stores. Often the sold-out products, are entered to the market and stores, in a variation within the same season (Hines and Bruce 2014). In contrast, replenishment in luxury companies is, in some cases, desired, but difficult to realise due to the long lead times.

Conclusion and Future work

This paper introduces a DSR based approach for developing an artifact for the selection of social media channels considering social media characteristics, in particular, the veracity feature. In this regard, a process model mainly consisting of the two main processes of channel selection on upper and on media level is developed. The process model was designed, employing BPMN 2.0. The use of the artifact is demonstrated by applying it on a case study. A significant focus is put on the believability assessment. As a proceeding step, the evaluation approach with an emphasis on the determination of possible evaluands put forward. This implies a comparison of fast fashion and luxury processes. As future work, a questionnaire will be designed to distribute to representatives of fast fashion and luxury organisations to evaluate the utility of the artifact for two different settings. For this purpose, different stakeholders involved in the diverse steps of a fashion and apparel SC will be interviewed in order to evaluate the utility of the process model developed.

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LOGISTICS POOLING AND MARKETING DIFFERENTIATION: THE NEW SOURCES OF COMPETITIVE ADVANTAGE IN A DIGITALIZATION CONTEXT

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Keywords

City logistics, Competitive advantage, Differentiation, Digitalization, E-commerce, Local authorities, Pooling, Supply chain, Urban deliveries.

Introduction

The development of e-commerce is one of the most significant advances in the evolution of distribution channels towards digitalization. Significant academic literature has focused in particular on how retailers develop attractive websites in addition to and/or in place of their physical stores in order to create strong consumer loyalty (Beck and Rygl, 2015; Fornari *et al.*, 2016; Haridasan and Fernando, 2018; Davies *et al.*, 2019). The result is multi-channel organizations of different types (Volle and Isaac, 2014), as shown in Figure 1, which multiply the touch points between the company and the consumer. More specifically with regard to the Internet channel, a significant effort is devoted to defining the offer, the ergonomics of the sites, or the ease of the ordering process. In a logic of fierce competition between websites, the implementation of an effective marketing strategy is perceived as a key element of differentiation from other companies, especially in order to build customer loyalty.

Figure 1. Typology of channel organization

Types of distribution channel organization		Definitions	Consumer purchasing process	Organizational diagrams
Single-channel		The firm (F) uses a single distribution channel (C)	The entire process takes place on a single channel	F → C
Multichannel	Conventional type	The firm (F) uses several distribution channels (C) that are not linked to each other	A purchasing process for each channel is imposed on the consumer	F → C F → C F → C
	Cross-channel type	The firm (F) uses several distribution channels (C), some of which may be linked to each other	The consumer can start a purchasing process on one channel and end it on another for a portion of the product range	F → C F → C F → C
	Omnichannel type	The firm (F) uses several distribution channels (C) in combination	The consumer can start a transaction on one channel and end it on any other channel	F → C F → C F → C

Source: Adapted from Volle and Isaac (2014).

Bezes and Belvaux (2012) studied the factors that differentiate websites and consider the image concept of the store as a source of differentiation. The image is one of the main sources of positioning for retailing (Filser, 2004), and it represents a competitive advantage that is difficult to duplicate by competitors. With the considerable increase in the number of stakeholders present on the Internet, it is becoming necessary to find other ways of differentiation (Bezes and Belvaux, 2012). As such, the service offered can be a decisive advantage, linked to advice provided, clear and detailed information on products, transparent order follow-up, or the proposal of the various omnichannel customer paths (click & collect, click & reserve). The social dimension can also represent an axis of differentiation: the distinction is then based on the relationships maintained with and between e-consumers, unlike websites based on a strict rationalization of processes and product assortment.

At the same time, the question of logistics service quality obviously arises for companies. Indeed, the performance of the availability of products to customers directly determines the perceived quality level of a website, but also the recurrence of orders over time. Amazon is an extremely interesting case as the company relies on increasingly shorter delivery times, for example less than an hour in major cities, to build a sustainable competitive advantage. However, the history of supply chain management is marked by pooling phenomena that lead companies to share the same logistics resources to deliver their customers in urban areas. Under these conditions, how can we reconcile competition (on marketing aspects) and collaboration (on logistics aspects)?

Purpose

One of the major problems faced by digitized companies is that their customers are largely located in cities, and that urban spaces are subject to increased political interventionism (Sirjean *et al.*, 2019). Thus, for the past ten years or so, strong constraints have been imposed in Europe by local authorities to avoid the uncontrolled multiplication of delivery systems and the resulting nuisances (noise, pollution, congestion). These constraints lead to the implementation of pooling policies (Morana *et al.*, 2014; Grandval *et al.*, 2019), by obliging companies that deliver products in cities to use shared logistics structures (same warehouses, same delivery vehicles). This means that tomorrow's urban logistics will be increasingly common to companies, while their marketing strategy is differentiated to build a sustainable competitive advantage. Figure 2 illustrates pooling in concrete terms by taking the case of the district dispersion points (DDP) set up in Singapore.

Figure 2. Consolidation of urban deliveries using a district dispersion point (DDP)



Source: Singapore Urban Redevelopment Authority (2019).

This is a major paradox in the transformation of retailing in the digital era. With reference to the theoretical background resulting from cooperation, which has been studied in the context of the digital economy (Nalebuff and Brandenburger, 1997), the development of websites forces competitors to cooperate in the value creation process, by refraining from conducting their own supply chain strategy to improve their logistics service quality independently. On the contrary, the pooling of resources set up to ensure urban freight distribution operations positions companies at the same level of performance, particularly in last mile management. While an important literature in SCM considers that logistics service quality is an essential element of competitiveness for companies (Murfield *et al.*, 2017), it is ultimately other dimensions that are essential to build a strong customer loyalty.

Thus, it is becoming important for e-commerce players subject to the pooled logistics policy imposed by local authorities to identify sustainable sources of differentiation. Logistics could previously represent this axis, but in the future, given political and ecological developments, e-commerce brands must learn to differentiate themselves on other elements. In their work, Bezes and Belvaux (2012) study in particular the image of the brand and discuss the social dimension or the service proposed as a differentiation axis. The purpose of this investigation is to identify, in a context where binding logistics rules will increasingly be imposed, what are the potential sources of differentiation between actors operating on the Internet.

Design approach

The paper is exploratory in nature. It is based on an analysis of logistics pooling practices currently being promoted by major European cities, in particular with the creation of urban distribution centers whose mission is to ensure the coordinated delivery of products in the city. The challenges are both economic and ecological: reducing infrastructure congestion that can lead to an exit of consumers from cities, on the one hand, and reducing environmental pollution and improving air quality, on the other. The rapid development of low emission zones is an excellent illustration of these developments (Jiang *et al.*, 2017; Santos *et al.*, 2019; Host *et al.*, 2020), the result of which is an increasing pooling of resources to reduce CO₂ emissions.

To identify current logistics pooling practices, an analysis of secondary data from the trade press will be preferred, based on various case studies in France, Germany and Portugal. In addition, in order to identify the areas of differentiation of e-commerce players in the face of the pooling constraint of their logistical organization, a qualitative study via semi-directive

interviews will be conducted with about ten website managers and logisticians. The purpose of the interviews is to highlight the perceived consequences of pooled logistics on their business activities, and in particular on the sources of differentiation available to websites.

Findings

The paper indicates that e-commerce companies targeting urban customers are confronted with the existence of two opposing visions that must be reconciled: a competitive marketing vision (marketing perspective) and a cooperative logistics vision (operations perspective). The conceptual framework of cooptation, rarely used in SCM, makes it possible to present the challenges of digitalization of retailing on the basis of a robust strategic analysis. On the managerial level, the objective is to provide companies with avenues for reflection on sustainable sources of value creation, by integrating the constraints of the legal environment, which are very present for urban freight distribution. The article thus joins the old analyses of the industrial organization, based on the work of Bain (1959) and Scherer and Ross (1990) on the SCP paradigm, to highlight the importance of public policy in the deployment and possible transformation of corporate strategies.

The case of the Lyon metropolitan area is very interesting. Access for light commercial vehicles and heavy trucks is limited only to those that comply with strict conditions regarding greenhouse gas emissions, effectively prohibiting the circulation of older vehicles and obliging companies to invest in a renewed fleet. However, the local authorities have taken care to support the companies in the necessary transformation of their corporate practices. In addition to existing national aid, Lyon metropolitan area provides *ad hoc* aid to facilitate the purchase of green vehicles (100% NGV, 100% electric or 100% hydrogen). Table 1 shows the amount of aid according to the type of motorization. In total, a budget of €1 million over three years will be allocated by local authorities to support craftsmen and SMEs to enable them to buy or lease green vehicles.

Table 1. Amount of flat-rate aid provided in 2020 by Lyon metropolitan area by vehicle category and energy used (in euros, for each vehicle)

	100% NGV	100% electric	100% hydrogen
<i>Heavy truck</i>	10,000	10,000	13,000
<i>Light commercial vehicle</i>	5,000	5,000	8,000
<i>Electrically assisted delivery tricycle</i>	--	300	--

Source: Grand Lyon Métropole (2020).

Originality/value

On the theoretical level, the research makes it possible to better understand the concept of urban pooled logistics, and to analyze its articulation with marketing strategies for differentiation in a context of digitalization of retailing. The originality lies in a dual theoretical framework that makes it possible to better understand how, in the near future, companies wishing to develop a clientele living in cities will have to learn to share logistics resources. This constitutes a deep break with old patterns according to which competitive advantage is built from valuable, rare and costly resources to imitate, to use the foundations of the resource-based view (Barney, 1991). On the contrary, pooled logistics leads to the use of resources identical to those of several companies, which are forced to adopt mimetic behaviors.

Practical implications

The aim of the exploratory research is to propose avenues for reflection on the key areas of differentiation on which companies should focus in order to better differentiate themselves

from their competitors. With pooled logistics, elements of differentiation between e-commerce companies can be strengthened, but others can also emerge step by step. For decision-makers, identifying these factors should facilitate the implementation of targeted, effective and efficient marketing strategies and actions to better attract and retain customers. Indeed, while the battle has been raging for a decade between e-commerce companies to propose a reduction in the time it takes to make products available to consumers, using this argument in their institutional communication, such as the Amazon case mentioned above, it is undoubtedly on the side of the other variables of the marketing mix that we will now have to turn. The logistics lever must therefore be reevaluated downwards, both in its practices and in the investments required to build a sustainable competitive advantage in a digitalization context.

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OPERATIONS PLANNING FOR PUBLIC HOLIDAYS IN GROCERY RETAILING

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Introduction

In retailing, demand fluctuates during the week, the year and especially around holidays (Ehrenthal 2014). Public holiday seasons are associated with an increase in revenue and play a major role for the annual performance. During these seasons, retailers offer a multitude of promotional articles to further increase sales (Urbatsch 2013, Ahluwalia et al. 2013, Qiu and Wenqing 2016). However, for example in German retailing, employees are not permitted to work on public holidays. Consequently, there is less time available for all logistics processes (e.g., picking at the distribution centers or deliveries to customers), but the same or even higher volumes have to be handled compared to standard weeks. In some countries, regional differences in public holiday regulations further complicate logistics processes and planning. Additionally, public holiday constellations change every year, thus special plans are required resulting in considerable additional effort.

This public holiday problem influences all subsystems of retail logistics. Especially, the operational planning areas disposition, warehouse management and transport are affected. The literature is rich in considering these operational planning areas in general (e.g., Stadler et al. 2012, Ross 2015). Demand forecasting models are developed (e.g., Gur Ali and Pinar 2016, Ramanathan and Muyldermans 2010), logistics operations are discussed for warehouse management (e.g., Gu et al. 2007, Kuhn and Sternbeck 2013, van Gils et al. 2018) and transportation (e.g., Günther and Seiler 2009, Holzapfel et al. 2016, Kuhn and Sternbeck 2013, Martins et al. 2007). Moreover, public holiday weeks (e.g., Christmas holidays) and shopping events such as Thanksgiving or Back-to-School are mostly analyzed from a marketing perspective (e.g., Qiu and Wenqing 2016, Warner and Barsky 1995).

Research has studied the planning areas also for pure online, multi- or omni-channel retailing. For example, warehouse management of retailers operating an online channel is discussed by Hübner et al. (2015). The transport of online retailing varies from the bricks-and-mortar retailing especially in terms of the last mile process. Last mile designs are captured in research regarding delivery modes, time windows, etc. (e.g., Agatz et al. 2008, Agatz et al. 2011, Hübner et al. 2016 or Duin et al. 2016). Additional transport models for omni-channel retailers, as for example shared vehicle routing problems (e.g., Paul et al. 2019), are developed. Additionally, the marketing perspective on holiday business in online retailing is

analyzed. For instance, Oh and Kwon (2009) study customer sensitivity to price promotions in multi-channel retailing. Ettouzami and Yates (2012) outline a research gap with regard to seasonality and promotional articles.

In conclusion, research has so far not combined the analysis of public holiday seasons with operational logistics planning from a practical view.

Purpose

Logistics in grocery retailing can be structured into four planning areas: procurement, warehousing, distribution and sales. Within these areas different planning tasks can be determined according to their time horizon. The public holiday problem studied is especially challenging for short-term planning areas as uncertainties and volume fluctuations affect operational planning such as personnel scheduling or the capacity plans. Therefore, the focus in this research is on disposition, warehousing and transport planning. Disposition is in charge of forecasting and builds the basis for all further planning areas. It determines the order quantities and thus the volumes to be handled in the distribution centers. Orders can be aligned to shifts enabling personnel scheduling. Thereby, delivery times and requirements must be balanced with warehouse capacities in terms of space, utilities and human resources. Finally, transportation planning considers the transport between distribution centers and stores or the last mile to the customer (Hübner et al. 2013 and 2016). The objective of this research is to identify and systematize the fields of action and the solution approaches in these operations planning areas of grocery retailers during holiday seasons.

Conceptual framework

The public holiday problem described has so far received little attention in research, especially from a logistics perspective. An exploratory qualitative research study is appropriate for uncovering such unstudied research areas as data from practice enrich the findings (Stebbins 2001, Flynn et al. 1990). The goal of the study presented is therefore to explore logistics processes, problems and actions of grocery retailers due to public holidays. Developing a theory out of the empirical data, we followed a grounded theory approach (Glaser and Strauss 1967, Manuj and Pohlen 2012).

Design/ methodology/ approach

Data are collected by conducting semi-structured, face-to-face interviews following a multi-step research design. This method provides information and systematizes fields of action without formulating restrictive hypotheses in advance. Moreover, it is an effective way for obtaining in-depth information. Therefore, we design an interview guideline, but the order of the questions raised during the interviews is flexible (Lindlof and Taylor 2019, Creswell 2014, Manuj and Pohlen 2012).

Grocery retailing is characterized by country-specific patterns and shopping behavior. Creating a unified context, the focus of the study is on the German grocery market. This enables comparisons between the companies and an evaluation of the representativeness of the data recorded. The 30 top-selling grocery retailers in Germany are the target group of the study. In total, 18 of these take part in the study. Interviews are conducted with 25 top managers, who have a holistic view on logistics and operations processes in their company. They represent 23 sales lines, from which three are online shops.

The data analysis follows the grounded theory approach (Corbin and Strauss 1990). The theory should be built by developing categories and using a constant comparative approach (Lindlof and Taylor 2019, Flick 2015, Glaser and Strauss 1967). For this, an inductive

analysis is applied by formulating abstract groups and assigning data to it (Creswell 2014, Gephart 2004). By coding data, we build substantive categories (Maxwell 2008). Two researchers independently work on the coding to reach internal reliability (Bryman 2015). The coding is processed using MAXQDA.

Findings

The problems of grocery retailers during public holiday seasons can be classified into the two categories 'uncertainties' and 'missing resources' affecting the operational planning areas. The demand fluctuates due to uncontrollable uncertainties such as the weather, short-term orders or promotional articles. Generally, demand uncertainties are higher in the online channel due to short order times and less historical data. The volatility of the demand complicates the planning in all areas. Furthermore, the skill shortage is appreciable in public holiday seasons, when additional volumes have to be handled. Missing pickers or drivers result in delivery delays.

The following solution approaches face the two problem categories outlined: a higher degree of automation, personnel resources, temporal time shifts of logistics tasks and cooperation. Automation facilitates the demand forecasting and increases forecast accuracy. Furthermore, it gains in importance for warehouse operations due to the skill shortage. Nevertheless, nowadays personnel resources are essential in peak times as adjustments of the personnel input are the reaction of fluctuations. For instance, the warehouse staff works over- or under-time for a certain period. Further solution instruments can be summarized as temporal time shifts of logistics tasks: adjustments of delivery days, pre-picking, pre-delivery and thus stockpiling. The aim is to balance the volume over a longer period. For instance for online deliveries, the orders are prepared at the evening and only the fresh products are added in the morning of the delivery day. Finally, the cooperation with supply chain partners builds the last solution approach category. For example, a close supplier relationship reduces delivery failures and enables just-in-time deliveries to minimize the storage time.

Practical implications

The study provides a market overview of logistics planning for public holiday seasons in German grocery retailing. It enables retailers to compare their challenges and solutions with those of competitors. Moreover, the analysis of suitable solution approaches shows grocery retailers possible ways of action for logistics operations. The practical relevance of the topic is highlighted by the high participation rate of our study. 60% of top-30 German grocery retailers covering around 80% of the total market volume provide insights into the holiday business.

Research limitations and outlook

Our study focuses on operational planning areas. In a next step, the influence of mid-term decisions could be considered in order to analyze the assortment ranges or the impact of advertisement actions on balancing the volume peaks. Moreover, further research could include the perspective of upstream supply chain partners such as suppliers and producers. Especially, the possibilities of transport collaboration or stockpiling could be analyzed. Additionally, future research could focus on how automation techniques can support transport and warehouse processes to compensate the general skills shortage. Furthermore, the study refers to the German grocery market. Further research could analyze whether the finding generated can be generalized for other grocery markets.

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Keywords

Grocery retailing, public holidays, operations, logistics planning, holiday seasons

RELATIONSHIP QUALITY, VALUE CO-CREATION AND ECONOMIC SATISFACTION IN B2B VALUE CHAIN

Introduction

Service Dominant Logic (SDL) has been a catalyst for several research guidelines and a growing customer-driven operational approach (Wilden *et al.*, 2017; Vargo and Lusch, 2017). However, when studying Value co-Creation (VcC) and Relationship Quality (RQ), interactions in retailing and manufacturing firms in business-to-business (B2B) have attracted less attention compared to service contexts (Hein *et al.*, 2019; Marcos-Cuevas *et al.*, 2016). Moreover, few papers cope with models offering triadic approaches; this is, taking into account relationships upstream the value chain, from the retailer backwards to the industrial manufacturer and then also to other industrial suppliers, as most studies focus just on dyadic relationships (e.g. Kohtamäki and Rajala, 2016; O’Cass and Ngo, 2012).

This research studies the role of VcC in the Relationship Quality-Economic Satisfaction chain. We conduct our study in the Spanish furniture industry. The study contributes to research in the RQ-VcC-ES chain. First, following the research agenda of Zolkiewski *et al.* (2017), we consider an affective social dimension as part of RQ. We model RQ as a second-order construct (Vesel and Zabkar, 2010) consisting of three first-order dimensions: Trust, Commitment, and Social Satisfaction (SS). Second, the literature encompasses conflicting approaches about RQ and VcC. Traditional studies consider Value Creation as a consequence of relational variables (e.g. Hessling *et al.*, 2018), while other authors consider VcC as antecedent (e.g. Franklin and Marshall, 2019; Thiruvattal, 2017). Hence, we have tested the effect of VcC as antecedent of RQ (Model 1) and an alternative model where VcC is a mediating variable (Model 2). Third, the literature rarely considers a holistic vision of the supply chain. Therefore, we conduct a triadic approach, so the mediation model is validated upstream the supply chain in two pairs of dyads, where a same actor has different roles (Zolkiewski *et al.*, 2017). For these purposes, the paper reports a study conducted with a sample of 77 Spanish furniture firms and measures RQ, VcC and ES in the retailer-manufacturer-supplier triad.

Purpose*

Li *et al.* (2020) define RQ as the quality of business interaction between providers and customers, which includes dyadic relationships (Prayag *et al.*, 2019). Traditionally, RQ reviews highlight difficulties for agreement on the dimensions of RQ (Athanasopoulou, 2009; Palmatier *et al.*, 2006; Vieira *et al.*, 2008). According to this, two competing streams of research address the dimensionality of RQ. A prevailing group of authors define RQ in terms of basic dimensions, namely Trust, Commitment and Satisfaction, while a second approach extends this dimensionality to other variables (e.g. Casidy and Nyadzayo, 2017; Jiang *et al.*, 2016; Matikainen *et al.*, 2015).

The literature offers varied perspectives on which relational constructs have an effect on traditional outcomes such as Customer Loyalty (Morgan and Hunt, 1994; Palmatier *et al.*, 2006; Hennig-Thurau, 2000; Kyoum Kim *et al.*, 2011). More recently, authors have studied RQ and its outcomes in the services B2C context (Hirshberg and Shoham, 2017; Prayag *et al.*, 2019; Jiang *et al.*, 2016; Sarmiento *et al.*, 2015; Bandara *et al.*, 2017). Prayag *et al.* (2019) review the literature ambiguity about antecedents and outcomes of RQ, for instance in the

case of Satisfaction. Song *et al.* (2012) excluded Satisfaction from the dimensionality of RQ and variables such as Cooperation and Coordination may influence the effect of Trust on Satisfaction (Barnes *et al.*, 2011), especially with the separation of Social and Economic Satisfaction (Ferro *et al.*, 2016; Ha *et al.*, 2016; Rodríguez del Bosque *et al.*, 2006).

The role of VcC in relation to RQ is not clear in the literature. Trust and Commitment are considered precursors of Customer Value in B2B relationships (Möller, 2006). Hessling *et al.* (2018) demonstrate that Affective Commitment, Trust and Shared Values are needed for value-based Commitment and Value Creation. Merz *et al.* (2018) provide evidence that Brand Trustworthiness and Brand Commitment are part of a higher-order customer VcC. Otherwise, there are some studies that consider VcC as an antecedent of Satisfaction and/or Loyalty (e.g. Woratschek *et al.*, 2019; Thiruvattal, 2017; Cossío-Silva *et al.*, 2016; Navarro *et al.*, 2016; Vega-Vazquez *et al.*, 2013). Regarding Trust, Franklin and Marshall (2019) empirically confirm that co-creation and integrity affect Trust, while Affective Trust is especially important in service industries. Coherently, Pereira *et al.* (2015) posit an antecedent role of Value on Commitment in B2B relationship. Other authors study the role of Value as antecedent of relationship variables (e.g. Sharma and Klein, 2020; Izogo *et al.*, 2020).

The purpose of this paper is to face gaps in VcC and RQ literature by reviewing the RQ concept when Satisfaction is addressed as Social and Economic separately, and estimating competing models when we introduce VcC in the B2B context, under a triadic perspective of the supply chain management.

Conceptual framework and hypotheses

As aforementioned, the paper compares two conceptual models of the RQ-ES chain, where VcC may act either as antecedent of RQ (Figure 1) or as a mediator between RQ and ES (Figure 2).

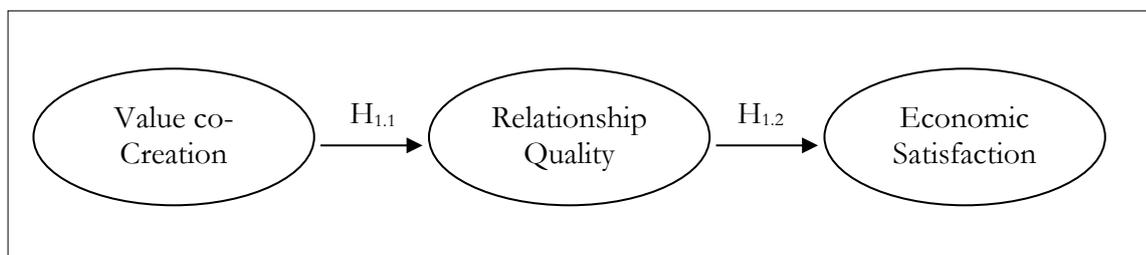


Figure 1. Alternative Model 1. VcC as antecedent in the RQ-ES chain.

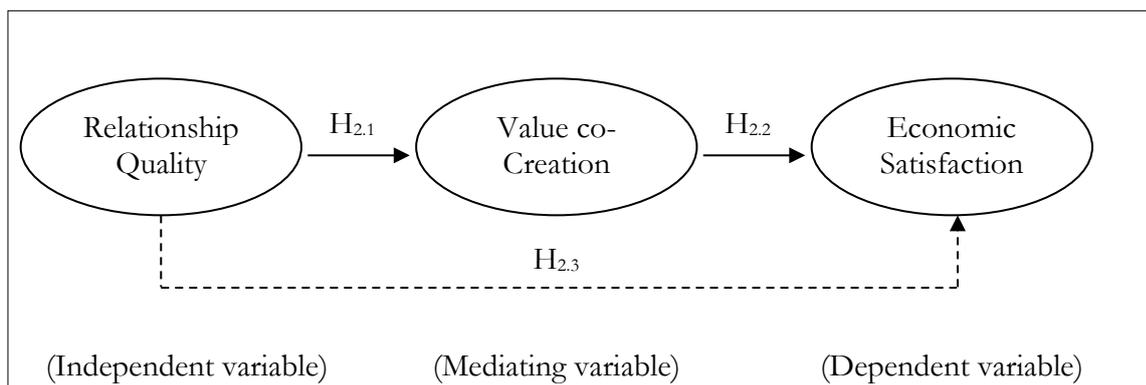


Figure 2. Alternative Model 2. VcC mediates the RQ-ES chain.

The assumptions and hypotheses of the two models are formulated as following:

Model 1 – VcC as antecedent of RQ	Model 2 – VcC as mediating variable
<i>Assumption.</i> Relationship Quality is a second-order construct composed by three dimensions that are Trust, Commitment and Social Satisfaction	
<i>H_{1.1}.</i> Value co-Creation has a direct and positive effect on Relationship Quality in the relationship between the retailer and the manufacturer.	<i>H_{2.1}.</i> Relationship Quality has a direct and positive effect on Value co-Creation in the relationship between the retailer and the manufacturer.
<i>H_{1.2}.</i> Relationship Quality has a direct and positive effect on Economic Satisfaction in the relationship between the retailer and the manufacturer.	<i>H_{2.2}.</i> Relationship Quality has a direct and positive effect on Economic Satisfaction in the relationship between the retailer and the manufacturer.
	<i>H_{2.3}.</i> Value co-Creation mediates the effect of Relation Quality on Economic Satisfaction in the relationship between the retailer and the manufacturer.

To fulfill the third gap identified in the literature, we add a final questions to compare models fit in two subsamples: the retailer-manufacturer and the manufacturer-supplier dyads.

Q₁. Which model fits better in the B2B industrial relationship when VcC is included in the RQ-Economic Satisfaction chain?

Q₂. Is the mediating effect of Value co-Creation between Relationship Quality and Economic Satisfaction stronger in the retailer-manufacturer dyad than in the manufacturer-supplier dyad?

Design/methodology/approach*

We combine RQ theory with VcC theory to compare two conceptual models of firms' relationships in the B2B supply chain. Both models conceptualize RQ as a higher-order multi-dimensional construct consisting of three sub-factors: Trust, Commitment and Social Satisfaction. In order to introduce the triadic approach (three actors in the value chain), the VcC mediation model (Model 2) is compared with PLS-SEM within two subsamples: retailer-manufacturer dyad and manufacturer-supplier dyad.

Data for this work were collected from a 77 firms participating in a business panel, the Spanish Furniture Market Observatory. Each manufacturer assessed the relationship with both the main client and the main supplier. Additionally, two more companies answered the questionnaire but just for relationship with main supplier, having therefore 79 informants for

the manufacturer-supplier subsample. These subsample sizes are in line with other empirical studies in the B2B context (e.g. Hamidi and Gharneh, 2017; Kohtamäki and Partanen, 2016; O’Cass and Ngo, 2012). We also conducted a Statistical Power test with software G*Power v.3.1.9.2. to confirm the suitability of the two subsamples (Faul *et al.*, 2007), obtaining results of $(1-\beta) = .87$ (87%) and $(1-\beta) = .86$ (86%). Both subsamples exceed the threshold of .80 as required for Social Sciences (Nitzl, 2016; Chin and Newsted, 1999; Cohen, 1988).

Multi-item scales were adapted from previous studies. We have adopted a collaboration-based definition of co-Creation, being suitable for an interorganizational framework (Ramaswamy and Ozcan, 2018; Bharti *et al.*, 2015). The VcC construct was therefore measured with six indicators as used by Claro and Claro (2010), reflecting main aspects of firm collaboration (joint planning, problem solving, and flexibility). To measure Trust and Commitment, as their dimensionality is not the focus of our study, we have adapted unidimensional parsimonious scales as used by Ferro *et al.* (2016). Finally, we have measured Social and Economic Satisfaction with three indicators as proposed by Chung *et al.* (2011). A 7-point Likert scale was used for all measures. All the scales showed high Cronbach’s alpha values in both subsamples (being .79 the minimum value for Trust and .93 the maximum value for Commitment, with composite reliability of .88 and .95, respectively). In addition, the AVE values varied between .56 for VcC and .87 for Commitment. In the light of these results, no item was deleted.

We have validated the proposed models with *Partial Least Squares* (PLS-SEM) by using the software SmartPLS v.3.2.7. (Ringle *et al.*, 2015). There is rationale for using PLS-SEM: the small size of the subsamples and the non-normal distributions found in both subsamples (Hair *et al.* (2014). As well as the fact of being in early stage of theory development (Richter *et al.*, 2016).

Findings*

Results evidence that SS and ES act differently in the B2B relationship. Here, SS is introduced as a first-order dimension of a RQ second-order construct. Results suggest that the effect of RQ on ES is greater when VcC is introduced in the chain as a mediating variable (Model 2), although the mediation may be partial in the chain. Moreover, regarding the comparison by subsamples in the triad, the mediating effect is greater in the manufacturer-supplier relationship than for the manufacturer-retailer one.

Original/value*

This paper aimed at improving the understanding and practices of VcC in relation to RQ in the supply chain management. In this sense, we contribute to reducing the conceptual gap between value exchanges in B2C and B2B contexts posed by Mencarelli and Rivi re (2015). The paper introduces a new perspective about the importance of SS as an affective dimension of RQ (Zolkiewski *et al.*, 2017). Thus, we widen the scope of the conventional understanding on SS and ES as main forms of Satisfaction and its relation to RQ. Instead, we propose to deal with SS as a relational dimension of RQ (being a second-order construct), while ES is kept as outcome of the B2B relationship. This is in line with recent authors that have explored the separate role of both Satisfaction dimensions in B2B relationships (Mohd Noor *et al.*, 2015; Briggs *et al.*, 2016). Furthermore, we introduce VcC as a fundamental construct for B2B relationships, following recent studies (Franklin and Marshall, 2019; Thiruvattal,

2017). By empirically comparing two alternative models, we conclude that VcC contributes to enlarge the effect of RQ over ES, mainly through a mediating effect in the retailer-manufacturer relationship.

Related to supply chain management, while B2B studies usually focus on services, this paper focuses on the retailing firm with its industrial chain. The paper also introduces a less common B2B triadic by testing two dyads (Nätti *et al.*, 2014; Murthy *et al.*, 2016). Thus, variations in the perceptions about the B2B relationship are captured as the role of each actor in the supply chain changes depending on the dyad.

Practical implications

The paper is also valuable for managers in retailing firms and for their partners upstream in the value chain. Depicting a triadic approach within the supply chain, the paper adds evidence about how to address greater ES with B2B partners through VcC practices in industrial relationships.

The paper has also implications for supply value management. As practices of VcC are evidenced to be greater in the value chain for manufacturers and suppliers, it is necessary to align the rest of the supply chain by involving retailers in business networks that make easier the introduction of VcC practices.

Research limitations and outlook

Results are limited to the Spanish furniture business with a cross-sectional approach. The findings cannot be easily generalized for other sectors in accordance with the highly contextuality of value creation (Akaka *et al.*, 2013) and the complexity of B2B service interactions (Zolkiewski *et al.*, 2017). Thus, contrasting RQ models in other business contexts is needed. Multicollinearity with Trust and Commitment should be also addressed.

Suggestions for future research include taking into account longitudinal studies in order to understand how ES may grow over time when RQ and VcC are consolidated between B2B partners. Another guideline would be reviewing the role of Trust within the RQ construct, dealing with cognitive and affective aspects (Prayag *et al.*, 2019), as well as with anti-Trust or Trust erosion issues in line with recent studies (Brown *et al.*, 2019). Other suggestion is to include in the model new variables such as technological skills of partners that may foster VcC and ES in the chain. Finally, by adding other actors' perceptions in the triad, synergic networks or ecosystems may be studied by introducing additional players of the supply chain.

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Keywords*

Value co-Creation, Relationship Quality, Trust, Commitment, Social Satisfaction, Economic Satisfaction, B2B, Supply Chain Management

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DYNAMIC MARKETING CAPABILITIES AS DRIVERS IN INTERNATIONAL CHANNEL INTEGRATION IN LATIN-AMERICAN FIRMS

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Introduction

The business environment is characterized by its complexity and ambiguity (Schoemaker, Heaton and Teece, 2018). It requires regular renewal of firms to articulate new challenges (Weerawardena *et al.*, 2007; Barrales, Martínez and Gázquez, 2014), seek internationalization (Morgan, Katsikeas and Vorhies, 2012) and ensure its sustainability. In this context, dynamic marketing capabilities are a source of competitive advantage in internationalized firms (Martin, Javalgi and Cavusgil, 2017). The marketing capabilities are difficult to imitate in terms of technological and operational capabilities due to the tacit knowledge and imperfect mobility (Wu, 2013).

To seize the international market opportunities firms depend on the adaptation and integration of marketing capabilities and develop some of them, that link to more traditional practices to their core competences (Mora and Johnston, 2017). This research recognizes the importance of developing and strengthen the distribution channels, due to firms must seek a wider and deeper coverage in each country (Rambocas *et al.*, 2015) to promote synergy with the distributor (Theoharakis, Angelis and Batsakis, 2019) and facilitate entry into the destination country.

The literature does not show a structural perspective to determine which functions of the distribution channels should be integrated and how (Saghiri *et al.*, 2017). These difficulties require companies to develop dynamic marketing capabilities (Konwar *et al.*, 2017) to drive their internationalization processes through key intermediaries, thus overcoming their organizational rigidities (Langlois and Robertson, 2000) and obtaining superior positional

advantage in their initial stages of internationalization. Nevertheless, Latin-American firms lack resources, knowledge, capabilities and experience (Martínez, 2011) to establish international channels and deploy more advanced internationalization processes (Fletcher and Harris, 2012). Hardly any alternative channels are available to companies, and integration with members of available channels is also very limited. So, in these markets, high levels of marketing capabilities are essential to sustain a superior positional advantage in the export venture (Martin, Javalgi and Cavusgil, 2017), easing the international process (Zhou, Wu and Barnes, 2012).

Thus, this study provides a better understanding of dynamic marketing capabilities in an ignored debate: internationalization process in emerging markets, grossly underrepresented in the literature (Martin, Javalgi and Cavusgil, 2017; Mora and Johnston, 2018). So, the research project is focused on determining the specific dynamic marketing capabilities that influence the integration and the coordination of the functions of the different members of the distribution channel in order to boot international processes, in Latin American small and medium-sized enterprises (SMEs).

Purpose*

The aim of this project is to identify the specific dynamic capabilities of marketing needed to integrate and coordinate the functions of the international distribution channel and boost the internationalization process in Latin-American SMEs.

Literature review and model proposal Conceptual framework

The dynamic capabilities are defined as “higher-level competences that determine the firm’s ability to integrate, build, and reconfigure internal and external resources/competences to address, and possibly shape, rapidly changing business environments” (Teece, 2012, P.1395). The literature demonstrates that companies which understand the environment can achieve competitive advantages in a different manner from their competitors (Eisenhardt and Martin, 2000). In this sense, the marketing capabilities are one of the primary ways to achieve a competitive advantage (Day, 1994) in order to improve the operational capabilities of the companies (Morgan, 2012) and their international performance (Ripollés and Blesa, 2012). According to Hoque (2017), a dynamic marketing capability has been defined as “market-knowledge adoption and deployment into cross-functional business processes through the organisation’s possession of higher-order marketing capabilities” (P.27). The dynamic marketing capabilities impact on specialized/functional capabilities and cross-functional capabilities such as pricing, advertising and promotion, product management and selling, considered as low-level marketing capabilities (Konwar *et al.*, 2017; Morgan, Feng and Whitler, 2017). Nevertheless, this study focuses on the distribution channel strategy, key element to boost international process on inexperienced firms.

The preceding literature has identified four dynamic marketing capabilities to drive international processes: a. Networking capability with strategic partners (v.g. Eriksson, Nummela and Saarenketo, 2014; Pham, Monkhouse and Barnes, 2017; Bai and Johanson, 2018); b. Market Orientation Capability (v.g. Barrales-Molina, Martínez-López and Gázquez-Abad, 2014; Evers, 2017; Kachouie, Mavondo and Sands, 2018), c. Market Adaptation to International Markets (v.g. Frasset, Miquel and Mollá, 2017; Efrat *et al.*,

2018) and d. Innovation Capability (v.g. Figueiredo, 2010; Kachouie, Mavondo and Sands, 2018; Kaleka and Morgan, 2019).

With an intensifying worldwide competition, firms are starting to export to diversify business risks, pursue growth chances and increase revenues (Tan and Sousa, 2015). However, Latin-American SMEs lack resources, knowledge, capabilities and experience (Martínez, 2011) to develop international channels and deploy more advanced internationalization processes (Fletcher and Harris, 2012).

The challenge of contemporary firms is to create win-win situations to achieve international partner's cooperation (Eriksson, Nummela and Saarenketo, 2014b). Facing this challenge, dynamic networking capabilities allow companies to generate non-available knowledge, understand competitors' strategies and identify international market changes (Heirati, O' Cass and Ngo, 2013) through strategic networks (Ciravegna, Lopez and Kundu, 2013). Most of the companies cooperate with their marketing intermediaries to offer products, since they improve money flows and provide diverse purchasing possibilities to the consumers (Fayaz and Azizinia, 2016). The higher the networking capability, the more effective a company can positively influence and handle their distribution channel members (Pham, Monkhouse and Barnes, 2017). Bianchi, Glavas and Mathews (2017) demonstrate that Networking Capabilities improves international performance in Chilean SMEs. Following the above discussion, we propose the following research question: ***RQ1. Does the specific dynamic capability of networking with strategic partners boost the internationalization process of Latin-American SMEs through the integration and coordination of the functions of the different members of the distribution channel?***

The market-oriented firms seek learning from consumers, competitors and external environment, processing all the information internally and using it to achieve success (Day, 1994). Recent empirical studies demonstrate that market orientation capabilities are important to learning about foreign markets and adjusting products and strategies to satisfy foreign demand (He and Brourthers, 2016). Market orientation influences compromise and confidence perception of different members of the distribution channel and reduce their opportunism (Qu and Zhang, 2015). Nevertheless, there are some literature gaps about the impact of the market orientation capability in the channel integration (Lin, Wang and Yu, 2010). Hunt (2012) suggests analyzing the application of market orientation in theories of distribution channels in future studies. Fuerst & Zettinig (2015) studied four Born Globals located in the city of Medellin (Colombia) that show a lack of market orientation to achieve better performance with international partners and establish marketing channels. Thus: ***RQ2. Does the specific dynamic capability of market orientation boost the internationalization process of Latin-American SMEs through the integration and coordination of the functions of the different members of the distribution channel?***

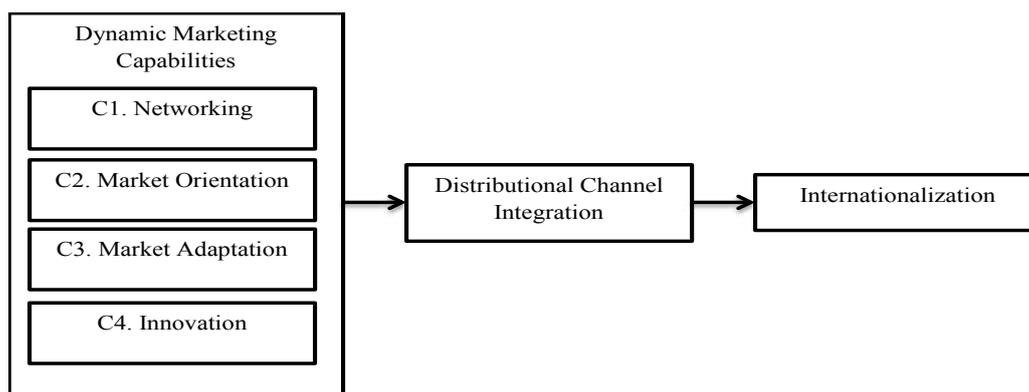
The use of market knowledge translates into an effective adaptation of strategies to the environment to respond to dynamic markets and their competitors (Bull, Dibrell and Down, 2007; Efrat *et al.*, 2018). The strategy adaptation is an efficient manner to develop and keep the distribution channels (de Carvalho and Sequeira, 2013). Adaptation allows firms to change their structure to respond to their partners and reduce the distance between them to strengthen their business relationships (Lukkari and Parvinen, 2008). In fact, the firms should align their distribution channels with the environment to achieve improvements in their exporting performance (Giovannini and Prencipe, 2017). Brenes, Montoya and Ciravegna (2014) identified that Latin-American Agribusiness are adaptive and flexible in their

marketing processes and they enter new markets only if and when they differentiate themselves from other producers in international markets. Following the above discussion, we propose the following research question: ***RQ3. Does the specific dynamic capability of market adaptation boot the internationalization process of Latin-American SMEs through the integration and coordination of the functions of the different members of the distribution channel?***

The innovation Capacity allows the development, recognition and integration of market knowledge, which implies renewing resources and capabilities of the company (Barrales, Martínez and Gázquez, 2014). Empirical studies show that lack of innovation and first-hand information about foreign market preferences and distribution channels hinder the ability of companies to quickly meet demand (Autio, Sapienza and Almeida, 2000). Gimpe et al. (2017) identified that Brazilian companies have achieved their international development, due to their innovation capabilities. In fact, innovation boots channel integration, thanks to new technologies, innovation culture, manager training and so on (Lin, Wang and Yu, 2010). Martin, Javalgi & Cavusgil (2017) demonstrate that innovation strengthens the link between marketing capabilities and positional advantage in Mexican firms. However, innovation research and literature is focused on companies in developed countries (Salgado *et al.*, 2018) and few studies are focus on understanding the role of innovation as a dynamic capability in international processes of emerging countries. Thus, we point out our last research question: ***RQ4. Does the specific dynamic capability of innovation boost the internationalization process of Latin-American SMEs through the integration and coordination of the functions of the different members of the channel?***

Figure 1 shows the model we propose for the exploratory study of the dynamic marketing capabilities that contribute to the integration and coordination of the functions of the members of the distribution channel, in order to promote the international processes of Latin American SMEs.

Figure 1. Model proposal



Design/methodology/approach*

The qualitative approach used was based the multiple case analyses in Colombian and Peruvian firms. This approach is broadly used when the phenomenon is formed to generate rich data (Yin, 2014; Cassell, 2015). The progressive approach of Sinkovics and Alfoldi (2012) was applied, supported by the software CAQDAS Atlas ti 7.5.15. Eight Peruvian and six Colombian organizations were interviewed. More than one person per company was

interviewed, to overcome the limitations of the qualitative methodology, by obtaining different concepts from the same companies (Eisenhardt and Graebner, 2007). The interviews were made face to face. The selection criteria were based on: companies with initial internationalization processes, small and medium firms enterprises with a maximum of 200 workers; agri-food companies, specialized in the production of coffee, mango and agrochemicals, due to the participation of these economic activities to generate jobs; and companies located in different stages of the international distribution channel. The interviews were recorded and transcribed to avoid the loss or distortion in the collected information. Then, we assigned codes to each company according to their origin (Colombia or Peru) that were included in the CAQDAS Atlas.ti. The content analysis was made according to Hutchinson et al. (2009), where common topics were identified and grouped according to the literature review. The codification doubts were created and solved within the research team. Once the procedure described was performed, the results were analyzed again collectively, according to the steps indicated by Miles, Huberman and Saldaña (1994) and Jurgenson (2005), to generate a point of view of each case and generate final conclusions.

Findings*

The results suggest that the Peruvian and Colombian companies under study show a low level of channel development. According to Blanco, Garza and Garza (2013), designing and selecting distribution channels in emerging countries is extremely challenging. Therefore, we have only found two types of distribution channels in their export operations that are not always available in both countries. The two types of international distribution channels are mainly formed by distributors and agents. In each channel, the dynamic marketing capabilities allow producers and intermediaries to collaborate with each other to generate consistency in product information, to properly service international customer orders, to simultaneously record purchase history and to provide optimal customer service, actions that ultimately drive their internationalization processes.

Original/value*

Previous research has focused on the study of dynamic marketing capabilities and their influence on different distribution channels in the international context of companies from developed countries. However, the dynamic marketing capabilities and their influence on the internationalization of Latin American SMEs in the agro-food sector have not been studied enough. It is important to explore the issue given the difficulty of these companies in integrating and coordinating the functions of their international distribution channel.

Practical implications

The conceptual model offers managers to identify specific dynamic marketing capabilities that help a Latin-American company thrust its internationalization process and establish synchronized operations and decisions with their international intermediaries. Therefore, these findings are valuable for entrepreneurs and researchers who want to know what types of marketing capabilities are appropriate and how to build, maintain and improve them in Latin-American companies to integrate international channel functions and deploy more advanced internationalization processes.

Research limitations and outlook

This research is a first exploratory study focused on Colombian and Peruvian SMEs that does not seek the generalization of the results. Further research should be focus on other countries and sectors, through a mixed-method approach, in order to analyze the influence of the specific dynamic capabilities of marketing in different internationalization processes. Also, ambidextrousness can be addressed more intensively in future research, to understand how dynamic marketing capabilities simultaneously can improve the internationalization process and then, influence the exporting performance in emerging countries firms.

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Keywords*

Internationalization, dynamic marketing capabilities, Channel Integration



“THE COMPLEMENTARITY OF ONLINE RETAILERS’ PAYMENT, DELIVERY AND RETURN SERVICES”

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The purpose of this paper is to investigate online retailers’ service offering in terms of payment, delivery and returns. Data from 204 online retailers in Sweden were collected on their payment options, delivery and return policy and average transaction value. This data was analysed with descriptive statistics, correlation and logit regressions with average marginal effects to determine differences in the generosity of retailers’ online service offering. This study finds that retailers tend to offer an “all or nothing service”, meaning that retailers that take on a high cost by offering a service also offers additional more costly services, for instance American Express, free delivery and returns. Research on payment methods, delivery and returns are scarce in combination. This study considers these different service points that makes up a large part of online retailers service offer.



“THE REALITIES OF PRICING IN ONLINE FASHION RETAILING”

Steve Wood (University of Surrey)

Iain Watson (University of Surrey)

Christoph Teller (Johannes Kepler University Linz)

Purpose: First, we critically examine contemporary pricing challenges online and omni-channel fashion retailers face as they seek to develop data-driven and responsive organisations. Second, we conceptualise practical management strategies for addressing shortfalls and identify avenues for empirical research.

Methodology: We conducted 55 interviews with executives representing five leading international online fashion retailers.

Findings: A gulf between the online pricing practices observed and academic marketing research is identified deepening our understanding of data driven pricing in a digital environment. We find no evidence of Value-Based Pricing—rather, pricing practices embedded within a portfolio of organisational routines and silos, a focus on Buy-in-Margin (BIM), and alignment with competitor pricing and historical pricing. International pricing tended to be set on the home market price complemented by an uplift. Processes for managing markdowns also varied substantially between and within retail firms—from highly responsive to bureaucratic and rule-driven. Online price visibility further served to constrain ability to adapt price.

Value: We conceptualise strategies for addressing deficiencies in online retail pricing practice. These include a need for consistency in incentives between actors in the price setting and management process, an openness to new data sources and departure from established routines, and clarity over the link between price/range architecture and rules concerning price management. For the academic discipline of retail marketing, there is the need for a research agenda that extends to pricing practices and the organisational context of the online retail firm.

THE OMNI-CHANNEL RETAILING CAPABILITIES WHEEL: EXPLORING DYNAMIC CAPABILITIES OF SPECIALIST RETAILERS IN GERMANY

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Purpose:

In this study, I examined dynamic capabilities to manage omni-channel retailing. Since, the introduction of the smartphone and the possibility to buy products everywhere, at any time and from which retailer the customer wants to buy from, strategies to counteract the diverging customer behavior are key to retain competitive advantages and a superior firm performance. Considering the retailing sector as a highly dynamic environment with altering conditions, rapidly evolving new market trends and changing customer need, companies have to adapt. Retailing companies do not only have to adapt, they need to adjust their product portfolio and improve their service level, they also must offer different touchpoints to the customer, which can be used simultaneously and switched seamlessly. Within the concept of omni-channel retailing, touchpoints are those elements that guarantee access to products as well as bi-directional communication, whereby they also can be defined as channels. Omni-channel touchpoints thus enabling the utilization of the advantages of physical stores and the quality of online shopping with the improved information level. Even more, in the terms of the omni-channel retailing concept, these touchpoints should be connected, so that the customer is able to switch between these touchpoints boundlessly. For example, the customer is shopping in an offline store, but his favorized trousers is not available in his size. The staff of the offline store then should be able to order the right size of trousers in the online shop and send this product directly to this customer, whereby the online and offline channel will be connected. With offering such omni-channel retailing services the companies are guaranteeing an improved shopping experience for the customer as well as customer needs can be fulfilled easier. But in order to adopt, implement and manage such omni-channel retailing operations, companies need resources and capabilities. In the following, the paper is focusing on capabilities, which are divided into ordinary and dynamic capabilities. Hence, the paper is following the research question, which sets of dynamic and ordinary capabilities can be identified, that are important to implement and manage omni-channel retailing? Moreover, the further research intends to narrow the focus by exploring selected dynamic capabilities of small and medium enterprises (SMEs) operating as a specialist retailer in Germany. Therefore, I interviewed six experts, who are operating in leading positions in their specialist retailing companies, which was guided by the following research question: Which dynamic omni-channel retailing capabilities are important for SME specialist retailers?

Design/methodology/approach:

Within this paper I follow the notions of Teece (2014) to identify sets of dynamic and ordinary capabilities. This advanced approach of capabilities bases on the dynamic capabilities view (DCV) of Teece et al. (1997). This DCV approach is applied in order to separate capabilities into dynamic and ordinary capabilities. Especially in the highly dynamic business environment of retailing, the differentiated view on dynamic and ordinary capabilities is useful. Ordinary capabilities on the one side are characterized as basic operative

competences to manage daily operations properly. Dynamic capabilities on the other side are capabilities, which are sensing, seizing and transforming opportunities and threats. Moreover, they lead to a change in ordinary capabilities and the resource base to foster improved firm performances and competitive advantages (Laaksonen and Peltoniemi, 2018). The authors are reasoning the approach of focusing on capabilities by characterizing omni-channel retailing as a service innovation following the notion of Hertog et al. (2010). They introduced the six-dimensional model of service innovations. Their definition of service innovations is that it is a new service experience or service solution that includes one of the following features: new service concept, new customer interaction, new value system or business partners, new revenue model, new organizational or technological service delivery system. Omni-channel retailing as a concept includes several of these dimensions. For example, the simultaneous usage of different touchpoints or the creation of new communications channels for the customer. Therefore, they are arguing that companies that want to establish such a service innovation need capabilities regarding technology, personnel, organization and culture. On this basis, I conduct a content-based literature analysis. The analysis is structured as the systematic review published by Denyer and Tranfield (2009). The conduction of the literature analysis uses the guidance of Denyer and Tranfield (2009) with their proposed four categories of the question formulation (1), locating studies (2), study selection and evaluation (3) as well as analysis and synthesis (4). The formulated question is named in the first section. The location of studies is conducted with the database of Scopus due to its large set of peer-reviewed literature and within a time period of ten years. The process of paper selection and evaluation reduces the number of articles from 153 articles to 63 articles, which are used in the following analysis and synthesis. Within the last step, a consolidation approach of the 63 articles is realized, whereby similar findings of the literature review are merged. Therefore, the outcome is more profound and the descriptive synthesis results in a development of a conceptual model to identify and assign capabilities, which are important for implementing and managing the concept of omni-channel retailing. Additionally, to gather insights in the field of dynamic capabilities related to omni-channel retailing, interviews with experts are conducted. In this research study and related to the second research question, experts are defined as persons in manager positions of SME specialist retailers. In total, 45 SMEs in the greater Bremen area were contacted, out of which six accepted the interview request. The companies interconnect that all of them have less than 20 employees, they are operating in the B2C retailing sector and can be characterized as specialist retailers. I conduct semi-structured and guideline-based interviews. The guideline for the interviews is based on the results of the previous conducted literature analysis. The topics of the interviews are focusing solely on dynamic capabilities constructs, which are gained through the literature analysis. Therefore, this study is narrowing down the object of investigation and increases the validity. The structure of this method is based on the qualitative content analysis of Mayring (2010). To gain better insights from the expert interviews, the approach of Mayring (2010) is combined with aspects of the qualitative content analysis of Kuckartz (2012). From the approach of Kuckartz (2012) the category building and category-based analysis is added to the main approach of this study to better combine the results of the literature review with the expert interviews. The interviews are recorded, a transcript is made and then coded by following a coding guide. The coding guide subdivides into the different dynamic capabilities found in the literature analysis and therefore, refers directly to the results of the previous method. The interviews, category development and coding are always executed by two persons as well as documented, by what the objectivity and reliability is given at any point of the qualitative approach. This approach was made possible through the cooperation with student assistants, which are studying in this field of research, whereby they are familiar with the content and also already gained experience in executing expert interviews.

Findings:

The findings provide a conceptual model for omni-channel retailing capabilities, where capabilities are separated into dynamic and ordinary capabilities. With the literature analysis I identified a set of eight capabilities in total. Two capabilities are by definition ordinary capabilities and six capabilities were identified as dynamic capabilities. Every of these eight capabilities are constructs, which are including several of different variables. Each variable is a specific capability found in the literature and therefore, they can be directly linked to one or several academic articles. The two ordinary capability constructs include the provision of assortments in every channel and forecasting of requirements regarding both the customer and the market. (availability, implementation) The six dynamic capability constructs refer to e.g. reacting initiatively on market shifts, implementing innovative technologies for the creation of unique selling points, transparency policy among all channels, utilization of customer-generated content, providing digital assistants or switching to cloud services for further use. (supply chain management, innovativeness, omnichannel environment, customer interaction, integration & coordination, customer/market understanding) For the interviews of the experts a focus on the six dynamic capability constructs was applied. The interviews gathered insights into opportunities and threats of dynamic capabilities in the field of SME specialist retailing companies. The service quality is a superior aspect of specialist retailers and is the most prominent feature named by the retailers. An ongoing adaption to customer needs and the possibility to get advices from these companies is of the utmost importance. Therefore, omni-channel retailers need to sensitize their staff to strengthen customer satisfaction and increase customer loyalty. An important capability is also the dynamic change and adaption of selling points on customer demands. Moreover, the SME specialist retailers are aware of the powerful tool of bi-directional communication through social-media channels to gain insights. Another aspect, which is mentioned to be important, is the implementation of various customer touchpoints and by that the enhancement of transparency among all these touchpoints and communication channels. Within the construct of integration & coordination, the importance of an efficient information management system with flexible customization possibilities are necessary in order to fulfil customer expectations. A highly important capability is the harmonization competence, where online and offline offers are synchronized and cross-channel interactions are easy to realize. All of these aspects are opportunities and threats at the same time, due to a lack of personnel and budget of SMEs. Whereby high potential aspects of digitalization are not implemented a lot within the study, for example the usage of technical assistants or all-encompassing information systems.

Originality/value:

To my knowledge, the literature analysis on dynamic and ordinary capabilities on the field of omni-channel retailing with the expert interviews in the field of specialist retailers from SMEs is one of the first studies with this research focus. The resulting omni-channel retailing capabilities wheel helps to identify needed capabilities in order to foster omni-channel retailing strategies and therefore the firm performance and competitive advantages. Moreover, the particular segment of SME specialist retailers is an interesting area of research due to their restricted possibilities and their need to focus on efficient capabilities and competences. With this in mind, the research adds important insights in both the general omni-channel retailing research field as well as specific business areas of specialist retailers and their needs. This kind of retailers need certain dynamic capabilities more than other dynamic capabilities due to restrictions, wherefore they need to concentrate on specific capabilities. In particular, customer preferences, high-level customer understanding as well as the provision of knowledge is key. The findings provide management implications for SMEs operating in the

field of specialist retailers. The supply chain management has not only to be efficient, moreover, it should be partly independent, which can be achieved through in-house production or different suppliers for their warehouses to supply customers from different channels. An open internal information management is necessary for the management of multiple channels simultaneously. The touchpoints have to be chosen in respect to the company's philosophy and the corporate identity to increase the acceptance of customers. Self-reflection is seen as an important factor for reacting on shifts. Besides self-reflection and a good analysis of the market as well as forecasting, an agile assortment is highly important for SME specialist retailers to sustain competitive advantages. The capability for bi-directional communication is highlighted as the key for SME retailers in specialist industries. Omni-channel retailing with its combination of different offline and online channels is fostering this aspect. Therefore, capabilities to adapt to these areas are necessary. This first explorative approach to gain insights into needed dynamic capabilities of specialist retailers is the beginning of the research agenda to empirically validate the model created from the literature analysis. Further discussions of research possibilities are necessary and will be part of the future research.

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Keywords: Service innovations, omni-channel retailing, omni-channel retailing capabilities wheel, specialist retailers, small and medium enterprise.

UNDERSTANDING ONLINE CHANNEL ADOPTION: A CUSTOMER SEGMENTATION ANALYSIS

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Introduction

The introduction of a new online channel can be challenging for brick-and-mortar retailers, which have invested a lot in the physical store network and struggle with the risk that online sales will cannibalize store sales (Biyalogorsky and Naik, 2003; Hernant and Rosengren, 2017). However, they have increasingly taken this step with the aim to drive higher sales, acquire new customers and, more importantly, to foster customer satisfaction and loyalty in the long-term. Introducing an online channel has been reported to display different effects in terms of customers' purchasing patterns. Shoppers migrating to the online channel were found to buy less from the company in the long term (Ansari *et al.*, 2008). However, Hernant and Rosengren (2017) reported that shoppers adopting the online channel increased overall frequency but with a minimum net effect on sales, due to a reduction in the average amount spent, hence proving the existence of cannibalization of offline sales. As far as loyalty is concerned, multichannel shoppers have been found more loyal, possibly because the augmented service levels with channel availability increases satisfaction (Wallace *et al.*, 2004). On the other hand, in a segmentation study, Konuş *et al.* (2008) found that the most loyal segment was those "store-focused". Given the reported diversity in customer behaviour stemming from the adoption of the online channel, more research is needed in this field, and we believe that a segmentation approach could uncover different purchase behaviour patterns. This, in turn, would provide a valuable contribution to investigate multichannel shopping behaviour (Ansari *et al.*, 2008). Segmenting customers is an effective practice to gain a richer understanding of multichannel shoppers (Neslin *et al.*, 2006; Verhoef *et al.*, 2015). Several studies have segmented shoppers based on channel usage or preference (e.g. Nakano and Kondo, 2018; Peker *et al.*, 2017). However, only a few of them have employed behavioural data that allow for the inclusion of

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behavioral patterns preceding online channel introduction, and that account for the dynamics of new channel adoption and cross-channel behavior (Hernant and Rosengren, 2017).

Purpose

The main aim of this study is to analyse the purchase behaviour heterogeneity of multichannel grocery shoppers when the online channel is introduced. The analysis is performed through an RFM model extended to include variables that specify the shopper's behaviour across channels (online vs. in-store).

Theoretical Framework

A central question in multichannel literature is whether multichannel customers are more valuable than their single-channel counterparts. Multichannel shopping has been associated with higher customer spending (Ansari *et al.*, 2008; Breugelmans and Campo, 2016; Kumar *et al.*, 2018; Kushwaha and Shankar, 2013), frequency of visit (Ansari *et al.*, 2008; A. Kumar *et al.*, 2018) and profitability (A. Kumar *et al.*, 2018; Montaguti *et al.*, 2016). However, there is also evidence that multichannel customers are not always the best customers; Kushwaha and Shankar (2013) obtained that for low-risk purchases, offline customers provided higher monetary value; in a replication study, Cambra-Fierro *et al.* (2016) found that full multichannel banking customers are not the most profitable. There are fewer papers that have segmented multichannel shoppers based on behavioural data. Thomas and Sullivan (2005) is an early example of such studies. Their work considered three channels employed by a retailer (catalog, Internet, brick-and-mortar store), and used price, product category, distance to store, and marketing communication as covariates. Li *et al.* (2015), using panel data in the health and natural products industry, segment customers based on the speed of adoption of online channels using as covariates purchase amount and channel chosen before and after the online channel introduction. Last but not least, Nakano and Kondo (2018) undertake a segmentation analysis of multichannel shoppers combining behavioural scanner panel data with survey data. This approach allows them to consider, in addition to purchase frequency and monetary value, psychographic characteristics (e.g. innovativeness, shopping enjoyment), and information channels. All these studies are multi-category and not specifically focused on grocery retailing.

The present study focuses on segmenting adopters of an online channel, namely home delivery, based on RFM variables computed separately for their purchase behaviour in the offline and online channels. Moreover, this work relates offline purchase behaviour prior to the introduction of the online channel with subsequent multichannel purchase behaviour, thus identifying how past behaviour might change after the adoption of a new online channel (Peker *et al.*, 2017). The RFM model is a segmentation approach that was developed by Hughes (1996) to distinguish key customers in a large customer base with reference to three variables related to customer purchase behaviour: recency, frequency, and monetary. Specifically, recency is expressed as the number of days occurring since the last purchase; frequency is described as the number of purchases or visits occurring in a given time period; monetary is the amount spent within a certain time period (Cheng and Chen, 2009). Recency, frequency and monetary are measured at the customer level.

Based on these premises, our study seeks to answer the following research questions:

1. *Which multichannel customer segments emerge following the introduction of the online channel by an offline retailer?*

2. *How does customers' previous offline purchase behavior predict multichannel behavioural heterogeneity?*

Design/methodology/approach*

The present study employs data related to a grocery retailer operating in Spain that introduced the online channel with home delivery service in 2016. The dataset was extracted from this company's loyalty card system spanning from 18 months before and after the launch of the home delivery service: 1151 customers - who have adopted the online channel and have been active in the period before and after the adoption of the home delivery - were selected. A Latent Class Analysis on recency, frequency, and monetary was conducted to identify customer segments that display different offline and online purchase behaviours before and after adopting the home delivery. We employed the "one-step approach", in which indicators and covariates simultaneously contribute to identify subgroups of customers. The indicators were variables computed after the introduction of the online channel, namely, recency, frequency, and monetary referred to online and offline purchases separately. The covariates were recency, frequency, and monetary referred to offline purchases before the introduction of the home delivery, in addition to age and gender. The employed procedure ran the algorithm with 100 random sets and 500 iterations for each number of clusters. The Bayesian Information Criterion (BIC) index, together with interpretability were used as criteria to select the appropriate number of clusters across several solutions evaluated.

Findings

The seven-cluster solution was deemed to be appropriate according to the abovementioned criteria. After selecting the seven-cluster solution, the significance of each model indicator was assessed by means of the Wald test. The associated p-value was lower than 0.05, thus showing that the employed indicators could be considered as discriminating among the identified segments (Vermunt and Magidson, 2005). Concerning the covariates, the following variables were reported to significantly influence the probability of belonging to the latent segments: recency, frequency, and monetary prior the introduction of the online channel, and age. To summarize, different customer segments emerge:

- offline shoppers displaying high or low amount spent offline that adopt the home delivery but then stop using it after four or five purchases (cluster 2 and cluster 3);
- average spending shoppers that after adopting the home delivery shift purchases from the offline channel to the online channel significantly (cluster 4);
- average spending customers that adopted the online channel and keep using both channels (cluster 1);
- top spending customers that use both channels, preferring the online channel (cluster 6) or the offline channel (cluster 5);
- shoppers that after the adoption of the home delivery churn regardless of the channel used (cluster 7);

Finally, we also notice that specific customer segments display a higher amount spent after adopting the home delivery (clusters 1, 2, 5 and 6), in contrast to other segments that reveal the opposite behaviour (clusters 3, 4 and 7)².

Original/value

Our results provide the following contributions. First, we contribute to the body of literature on multichannel consumer behavior by displaying that adopters should not be considered as a homogenous group of customers displaying a similar behavior, as suggested by Verhoef *et al.*, (2015). Second, we show, by implementing the RFM approach in a multichannel setting, that it is possible to identify how customers adopt and keep using a new channel. Third, this study adds to the literature on the effects of online channel adoption by analyzing the changes in spending, frequency, and the chances of cannibalization occurring with the introduction of home delivery.

Practical implications

Retailers could benefit from the results of the present study to support the evaluation of: i) the performance, ii) appropriate CRM strategies, and iii) adequate planning and investment in the new channels. Results provide evidence on what retailers could expect in terms of heterogeneous customer response when introducing the home delivery service. Our study points to the need for retailers to develop CRM strategies aimed at different multichannel customer segments. First and foremost, to retain top spenders that use both channels. They can provide incentives, such as free delivery or discounts to increase the amount spent online and to reduce the likelihood of adopters discontinuing their use of the online channel. Non-monetary incentives such as “status” recognition of these top spenders by means of exclusive services or by telling their stories on the retailer’s media outlets may also be employed, which could also attract other customers to try the new channel. Secondly, retailers are urged to carefully monitor those adopters that start to display high recency across both online and offline channels, as this is a hint of likely churn. Finally, findings on the relationship between offline purchase behaviour before the home delivery launch and subsequent purchase behaviour can support retailers in predicting to what extent their customer base might display multichannel behavior if they introduce the home delivery option. These estimates will prove valuable in the planning of scalable capacity for the new channel, and allocation of investment over time.

Research limitations and outlook

Our analysis only includes adopters of the home delivery service. Further research could examine how adopters and non-adopters differ in their purchase behaviour after the launch of the new online channel. No psychographic variables were measured in the present study. Psychographic variables could help to explain the reasons behind the displayed behavioural patterns.

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² Tables displaying validation indexes and results for the identified clusters are available upon request

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Keywords*

Multichannel retailing, home delivery, channel adoption, RFM, Latent Class Analysis

Acknowledgement

This work was financed by the Spanish Ministry of Science, Innovation and Universities, Spanish State Research Agency (Research Grant ECO 2017-83051-R).

A CLASSIFICATION OF POS-SERVICE-TECHNOLOGIES

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Abstract

The optimal integration of technologies at the PoS (Point of Sale) is widely discussed. Recent literature points out that in today's stationary retailing it is the augmentation of the interpersonal interaction between customer and frontline-employee through innovative technologies, enhancing the service encounter. Depending on customers' individual and situational service needs as well as apprehensions, the use and the value of a certain technology within the service encounter differs. Hereby, our research focuses on a systematic comparison of six as relevant identified PoS-service-technologies regarding customer's perception of usefulness-, ease of use-, entertainment- and data-security-related factors.

By conducting an online survey (N=620), we create three clusters, indicating three categories: operation-focused-, information-focused- and enjoyment-focused-technology-infused PoS-service. Based on WebQual and ServQual and referring to uses and gratifications as well as privacy calculus theory, we derive meaningful theoretical implications, but moreover practical strategies for retailers.

In detail, our findings confirm elements of U&G theory in which the intuitive operation with technology-infused PoS-service leads to a form of gratification of the customer. However, by providing innovative, enjoyable new technologies at the PoS for new types of connected technology-infused PoS-service, retailers can enhance the shopping experience and make stationary shopping even more convenient. In fact, we could demonstrate that the evaluation of technology-infused stationary services differs significantly across technologies at the PoS, stationary retailers should provide adequate PoS-service-technologies that customers utilize for stationary activities. Moreover, the findings indicate that retailers should consider the relevant attributes and capabilities of a PoS-service-technology to design a positive service environment.

Keywords: Retailing, PoS-Technologies, Interpersonal-Service

Introduction

Social interactions between frontline-employees and customers are bound to happen in brick-and-mortar stores (Yoo 2017). However, the infusion of technological assistance influences today's PoS (Point of Sale)-service increasingly by enhancing the information base of the customer through an improved access to (potentially) beneficial information (e.g., Rust and Huang 2014). Depending on customers' individual and situational service needs as well as apprehensions, the use and the value of a certain technology within the service encounter differs (e.g., de Keyser et al. 2019). Research focusing on the PoS-service-technologies highlights numerous positive aspects, as an improvement of the overall customer service, frontline-employees' adaptability, customers' perceived customization, as well as a positive impact on customer delight (e.g., Ahearne et al. 2008; Ahearne and Rapp 2010; Bitner et al. 2000).

In order to systemise the different potential of PoS-technologies, Grewal et al. (2020) suggested a model, emphasizing social presence and convenience as central factors. However, in traditional PoS-services social presence includes the immediate interaction between two parties (e.g., Biocca and Novak, 2001), social presence can be triggered just by the signalling of humanity, warmth, or human involvement (van Doorn et al., 2017). Consequently, even technologies are able to create this feeling (Grewal et al., 2020). However, we still see an essential advantage within the presence of a human service employee, as the frontline interaction between the customer and the service-counterpart is important when it comes to the question which and how certain technologies should be infused (e.g., Parasuraman, 2000).

However, an empirical proof of a PoS-service-technology-classification is missing in academic and practical discussion. Especially for the stationary retailer it is important to understand, which PoS-service-technology is (or are) the most promising with respect to the individual product or the store atmosphere, the concerns or interests of the customers as well as companies' monetary benefit. This is based on the fact, that in-store technologies create not just opportunities but bring also challenges for retailers (Piotrowicz and Cuthbertson 2014). In this manner, our study emphasizes the specific relevance of PoS-service-technologies with respect to their individual characteristic and extends the existing knowledge in this field by classifying the multiple PoS-service-technologies. Consequently, we offer a heuristic and empirically proofed categorization of PoS-service-technologies from customers' perception by following two research questions:

RQ1: How can PoS-service-technologies be classified, considering a general focus on the social interaction between frontline employee and customer?

RQ2: To what extent are usefulness, ease of use, entertainment and data-security decisive for customers' perception of PoS-service-technologies as well as its integration for practice?

Purpose

Within a first analysis, we identify six PoS-service-technologies to be the most relevant ones in context of usability within a human-based PoS-service. As we identify these PoS-service-technologies of having the most potential to support the PoS-service interaction, we use the term PoS-service-technologies. Because our study is aiming for a categorization of technology-infused PoS-services, we concentrate on the specific differences with regard to the current literature (e.g., Grewal et al., 2020; van Doorn et al., 2017). Our categorization is further based on Loiacono et al.'s (2007) approach of WebQual and refers to ServQual by

Parasuraman et al. (1988) as well as to the uses and gratifications (U&G) theory and to Privacy Calculus (PC) theory.

By proposing the research question, how customers' general perception of different types of PoS-service-technologies can be classified, our research contributes to the knowledge of Services Marketing in several ways. We identify three independent clusters of technology-infused PoS-services: (A) Operation-focused technology-infused PoS-service; (B) Information-focused technology-infused PoS-service; (C) Enjoyment-focused technology-infused PoS-service. On the base of these findings, we offer useful knowledge for further investigation of stationary consumer behaviour (e.g., the design of experiments, surveys, or modelling approaches). Moreover, we deliver important implications for marketing practice decisions (e.g., regarding formulating strategies on a smart infusion of PoS-service-technologies within stationary retail environment respectively the PoS-service, by focusing as well on the customer as on the frontline-employee).

Conceptual framework

We draw on the uses and gratifications theory, introduced by Blumler and Katz (1974). U&G predicts that a specific medium will be used as a means to satisfy customer's wants or interests and is therefore applicable for the use of a PoS-technology (Keeling et al. 2007). As a theoretical framework, U&G aids in understanding and explaining the motivations for using new media and technology through a "how and why" approach (Kim and Lee 2013). For example, gratification can be obtained from technological attributes (e.g., information quality) or from familiarity with technological utilization (e.g., intuitive operation). U&G, however, allows the incorporation of the possibility that users might have alternatives to satisfy their needs, and it is capable of helping to identify why consumers comprehend with a specific technology, for instance within a service interaction at the PoS.

As additional influences we draw on the extension of technology acceptance model (TAM) (Davis 1986), implementing for instance enjoyment or trust (Ha and Stoel 2008). Hereby we refer to the WebQual-instrument by Loiacono et al. (2007), as we focus on digital-influences and build on the ServQual-instrument by Parasuraman et al. (1988), as the interaction between customer and frontline employee is of relevance. In detail, WebQual focus specifically on websites' interface. However, following Loiacono et al., (2007) this approach might be beneficial for new and innovative information technologies used in order to understand customers' behaviour and perception. This instrument offers a set of scales covering the dimensions: usefulness, ease of use, complementary relationship and entertainment. Moreover, we refer to Laufer et al.'s (1977) theory of Privacy Calculus. It argues that customers' intuition to weight between the risk and benefit is transferable to the context of customers' willingness to share personal data. As in today's retail environment, access to customers' data is seen as a key advantage (Wakefield 2013), every form of interaction, online with a website as well as offline with the frontline-employee, can be seen as a potential data-supply and thereby as a possible security-threat for the customer.

In order to classify the services, we integrated ease of understanding, intuitive operation and relative advantage (all derived from U&G), functional fit-to-task, information quality and tailored information, innovativeness and perceived enjoyment (all derived from WebQual) and data-security attitude (derived from Privacy Calculus).

Design/methodology/approach

In our study, participants were asked, “Please indicate which of the following PoS-service-technologies you already have experienced.” Thus, a multiple selection of up to six technology types (plus; “others”) was possible for each respondent. In total, 620 subjects (48.23% female) with an average age of 30.80 (SD=10.94) years could be identified. We just integrated subjects, who already experienced the PoS-service-technologies.

As our study focuses on PoS-service-technologies with the potential of supporting and enhancing the frontline-employee-customer interaction (e.g., by delivering additional information etc.), PoS-service-technologies concentrating on a frontline-employee-free service (QR-codes, Beacon-technology etc.) were not considered. In this context, we conducted a literature review on the infusion of technology in retail services, affecting the relationship and interaction between the two. As a result, we distinguish six technology-based PoS-services, presented in table 1.

Mobile Device (e.g. Ahearne et al. 2008):	a portable device; in interaction with the frontline-employee, customer can see current offers, store information, prices and finalize orders etc. while moving through the store
Standalone Terminal (e.g. Wang, Harris, and Patterson 2013):	a standalone technology; in interaction with the frontline-employee, customer can see current offers, store information, prices and finalize orders etc. on a small screen
Interactive Display (e.g. Roggeveen, Nordfält, and Grewal 2016):	a, at the PoS, hanging or standing interactive display; in interaction with the frontline-employee, customer can see current offers, store information, prices and advertisement etc. on a large screen
Digital Shelf (e.g. Roggeveen et al. 2015):	a, at the PoS, hanging or standing digital display; in interaction with the frontline-employee, customer can see current offers, weather products are in the stock, prices and finalize orders etc. on a large screen
Virtual Service Assistant (e.g. Farah, Ramadan, and Harb 2019):	e.g. in form of virtual glasses ; in interaction with the frontline-employee, customer can see current offers, prices and advertisement etc. while moving through the store
Augmented Reality Display (e.g. van Esch et al. 2019):	e.g. in form of a digital mirror; in interaction with the frontline-employee, customer can try on numerous products without changing, see current offers, prices and potentially connect to the personal social media account to post the generated content

Table 1: Integrated PoS-technologies

To analyse the data, we performed hierarchical cluster analysis to identify groups of similar PoS-services. We used single linkage and Ward's cluster algorithm and compared them for interpretability and consistency. To estimate the optimal number of clusters, we applied the elbow criterion by graphing the development of heterogeneity against the number of clusters.

The hierarchical cluster analyses resulting in a three-cluster solution. In detail, we investigated how consumers evaluate the technology-related attributes of a technology-infused PoS-service. Items of the central dimensions of usefulness (1.-3.), ease of use (and complementary relationship) (4.-6.) and entertainment (7.-8.) and data-security (9.) were rated by the respondents for the different PoS-service-technologies (Scales: 1=does not apply at all; 7=applies completely).

Findings

The results of several ANOVAs illustrate that consumers' evaluations differ significantly across the single cluster for seven of nine dimensions (see table 2).

Dependent Variable	Cluster A (N=271)	Cluster B (N=304)	Cluster C (N=45)	F-Value	Eta ²
	Operation-focused PoS-services (including: Digital Shelf; Standalone Terminal; Interactive Display)	Information-focused PoS-services (including: Mobile Device; Virtual Service Assistance)	Enjoyment-focused PoS-services (including: Augmented Reality Display)		
1. Ease of Understanding	5.22 (1.17)^{B,C}	4.96 (1.18) ^A	4.67 (1.30) ^{A,B}	6.157**	.020
2. Intuitive Operation	5.23 (1.19)^C	5.06 (1.24)	4.66 (1.57) ^A	4.544*	.015
3. Relative Advantage	4.02 (1.43)	3.79 (1.49)	4.01 (1.40)	1.880	.006
4. Functional Fit-To-Task	4.05 (1.48)	4.10 (1.50)	3.90 (1.36)	.378	.001
5. Information Quality	4.40 (1.49) ^B	4.80 (1.44)^{A,C}	4.22 (1.39) ^B	6.855**	.022
6. Tailored Information	4.03 (1.44) ^B	4.52 (1.39)^A	4.32 (1.48)	8.570***	.027
7. Innovativeness	4.96 (1.51) ^{B,C}	4.60 (1.43) ^{A,B}	5.58 (1.37)^{A,B}	10.516***	.033
8. Perceived Enjoyment	4.81 (1.47)	4.51 (1.43) ^C	5.25 (1.44)^B	6.050**	.021
9. Data-Security Attitude	3.52 (1.48) ^C	3.43 (1.41) ^C	4.15 (1.17)^{A,B}	5.044**	.016

Note: Mean (SD). Highest rating across e-channels is indicated in bold. (1) = does not apply at all; (7) = applies completely. * = $p < .05$ significance level; ** = $p < .01$ significance level; *** = $p < .001$ significance level. Elevated letters indicate a significant difference (Scheffé post hoc $p < .05$) to the respective cluster.

Table 2. ANOVAs of the identified Clusters

The first cluster (A) encompasses three technology-infused PoS-services: PoS-service with the help of a Digital Shelf, a Standalone Terminal and an Interactive Display. These PoS-service-technologies show a high level of Intuitive Operation. The operation with these technologies and accordingly with the frontline-employee seems to be perceived as less complex as the contact with other (more innovative) sorts of technologies. Therefore, in context of technology-infused PoS-service, we name this cluster “Operation-focused PoS-services”. The second cluster (B) includes PoS-service with the help of a Mobile Device Service and a Virtual Service Assistant. Both PoS-service-technologies are compact and portable. Moreover, the overall service-interaction in both cases is not primarily proceeded by the technology but by the frontline-employee. Moreover, these PoS-service-technologies give the customer the feeling of delivering the most tailored information and trigger the highest amount of data-security-perception. Findings indicate that within today’s retail landscape this cluster can be identified as “Information-focused PoS-services”. The last cluster (C) consist of a single technology-infused PoS-service: PoS-service with the help of an Augmented Reality Display. This PoS-service is seen as the least used one. Similar to cluster A, due to technologies’ characteristics, by infusing Augmented Reality Displays, the frontline-employee takes more of a passive role. Here, the general service-interaction concentrates on the interplay between the customer and the technology. Findings show that PoS-services within this cluster function as the most innovative and enjoyable. Consequently, we summarize as “Enjoyment-focused PoS-services”.

The respondents considered Ease of Understanding as well as Intuitive Operation to be significantly the highest for cluster A. Moreover, the analyzation of the planed contrast emphasis this finding, as especially ease of understanding shows a clear difference to both of the other cluster.

Original/value

In summary, we could give a clear answer to the two research questions. Findings of our study show that regarding the identified six different PoS-service-technologies can be classified into three categories of digitally infused service: Operation-focused PoS-service,

Information-focused PoS-service and Enjoyment-focused PoS-service. Especially retailers' awareness regarding the associated challenges, the infusion of PoS-service-technologies might bring, need to be understood and considered (Piotrowicz and Cuthbertson 2014). In contrary to the more Intuitive-Operation-focused PoS-services, in which customers seem to appreciate the facile and familiar access to information, Enjoyment-focused PoS-services open a new field. It is interesting, that the included Augmented Reality Display is perceived the most innovate and likewise the most (data-)secure. These findings are in line with Krafft, Arden and Verhoef (2017) emphasizing that privacy concerns as well as information disclosure behaviour can be leveraged by entertainment-related factors.

Practical implications

Our findings also suggest practical implications both for the introduction and adoption of new technologies at the PoS. Results demonstrate that the evaluation of technology-infused stationary services differs significantly across technologies at the PoS, stationary retailers should provide adequate PoS-service-technologies that customers utilize for stationary activities. Moreover, the findings indicate that retailers should consider the relevant attributes and capabilities of a PoS-service-technology to design a positive service environment that enhances consumers' stationary shopping experiences. Our findings also confirm elements of U&G theory (Blumler and Katz 1974) in which the intuitive operation with technology-infused PoS-service leads to a form of gratification of the customer. However, by providing innovative, enjoyable new technologies at the PoS for new types of connected technology-infused PoS-service, retailers can enhance the shopping experience and make stationary shopping even more convenient.

Research limitations and outlook

In our study, consumer behaviour was investigated based on self-reported experience of PoS-service-technologies and the utilization intentions of customers in the stationary retail environment. Future studies need to extend the data-set especially with respect to customers' evaluation of different branches and retail formats. It might be interesting to use a perceptual map through a multidimensional scaling (MDS). The input would be a similarity matrix (based on ranking or similarity of objects). As an output a low-dimensional dataset called MDS configuration results hereby. This matrix offers an overview on which and how the respected technologies are linked. In more detail, a property fitting approach might deliver further interesting aspects. Moreover, PoS-service-technologies should be compared with respect to customers' actual shopping behaviour (e.g., purchase intention) to validate the results of our study and to generalize our findings.

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Keywords

Retailing, PoS-Service-Technologies, Classification, Interpersonal-Service, Customer Behaviour



“CUSTOMER ENGAGEMENT BEHAVIOUR ON SOCIAL MEDIA PLATFORMS: HOW ARE SMES FASHION RETAILERS ENGAGING?”

Firm reputation refers to the way in which customers can recognize and correctly interpret a firm’s identity. Customers can influence firm reputation through word of mouth communication with the scale of this impact facilitated through social media and online communications. A firm’s reputation is a key prerequisite for engendering high levels of customer engagement behaviour and customer engagement behaviours on social media has the potential to influence the relationships between firms and their customers. The emergence of social media platforms as a means of engagement is highly advantageous for SMEs as it offers opportunities to engage with customers and to extend communication to existing and future customers. Using observations of social media posting across three platforms (Facebook, Instagram and Twitter) this study compares the engagement of customers and small fashion retailers categorised under three social media engagement behaviours. Termed as sharing and watching brand-related content (consumption), posting brand-related content (creation) and commenting or liking brand-related content (contribution) these activities help understand both the type and level of engagement behaviour between SMEs and their customers.



“DRIVERS OF SERVICE SUPPLIERS’ LOYALTY TOWARDS ONLINE PLATFORMS”

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Based on an online study among service suppliers of two European internationally operating lodging platforms (brand A: n = 658; brand B: n = 960), on which service suppliers offer their homes for holiday rental, we analyze factors that influence service suppliers’ loyalty towards service platforms. As drivers of service suppliers’ satisfaction and commitment to the platform, we analyze the role of perceived service quality and platform attractiveness in driving satisfaction with the platform and commitment to the platform, as previous research suggests their importance in building loyalty. Our data suggests that platform satisfaction is more important than commitment and that platform performance and service quality as well as brand attractiveness are key in driving suppliers’ satisfaction with the platform. Managers therefore need to optimize their service strategies. With regard to theory, our results imply that platform attractiveness for suppliers that are in competition to each other rather is driven by brand and customer related elements, while competitors’ attractiveness seems to reduce satisfaction with the platform.



“FROM PHYSICAL STORE TO DIGITAL STORE: THE ROLE OF DIGITAL TERMINAL ON CUSTOMER’S BEHAVIOR”

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In an increasingly competitive context, retailers are looking to innovate by implementing digital terminal in their stores. These terminals provide sensorial stimulation for consumers and can modify their behavior in the store.

The goal of this research is to identify how the experience of using a digital terminal in a physical store can influence the customer behavior, taking into account mental imagery and the shopping value. To answer this question, we conducted two empirical studies: for the first one the questionnaire was administered online (115 respondents) and for the second one after the shopping journey in the stores of one international retailer that sells sport equipment (220 respondents).

Our results confirm the significant influences of the terminal use on the utilitarian, hedonic and social dimensions of shopping value, but above all emphasize the central role of the self-mental imagery. In both studies, the self-mental imagery is reinforced by the four dimensions of experience (cognitive, pragmatic, sensorial and social) and it favors strongly the two behavioral intentions: purchase intention and word-of-mouth. Purchase intention and word-of-mouth intentions are also positively influenced by the improvement in the utilitarian value, and to a lesser extent in the social value.

The originality of this work lies in highlighting the impact of terminal use experience on mental imagery and shopping value which in turn influence consumer behavior.

TOWARDS A FIRST CONCEPTUALIZATION OF SHOPPERS' AMBIVALENCE TO DIGITALIZATION

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Introduction

Digitalization of retailing describes the process of integration of digital technologies during shopping. It is an ongoing process, with no clear beginning or end, which is not merely imposed on people and organizations. Digitalization is about what people and organizations “do” and produce themselves through human activities, practices, interactions and configurations (Hagberg, Sundstrom, and Egels-Zandén, 2016; Reddy and Reinartz, 2017). Verhoef, Kannan, and Inman (2015) emphasize that digitalization both influence and is influenced by the retail landscape. Retailers provide shoppers with various services, that are simultaneously adapted to the use of technologies (e.g. stores open cashier-free at Amazon Go via the application of the same name) and affected by the new forms of shopping associated with these technologies (e.g. restaurants and concept store that appoint a dedicated space for souvenir photos to be shared on Instagram). The deep changes due to digitalization in the retail landscape were the focus of numerous research (Grewal, Roggeveen, and Nordfält, 2017; Reinartz, Wiegand, and Imschloss, 2019).

A first large stream of research concerns the digitalization in retailing. While sometimes pointing out the difficulties inherent to its implementation, or recently emphasizing "the dichotomous nature of technology" with "both benefits and harms for consumers" (Markos, Labrecque, and Milne, 2018, p 59), the vast majority of research in retailing focuses on the benefits of digitalization. They rarely discuss the contradictory reactions digitalization is likely to generate for shoppers (Johnson, Bardhi and Dunn, 2008; Dholakia 2019).

Moreover, another stream of research focuses on shoppers' ambivalence to technology. Following Thompson, Zanna and Griffin (1995), Otnes, Lowrey and Shrum (1997) introduce the idea that consumers can be ambivalent, i.e., they can simultaneously feel and show positive and negative reactions to a person, product or phenomenon (Ardelet et al. 2017; Rothman et al. 2017). As Sincoff (1990) points out, it is interesting to note that ambivalence is not synonymous with a single conflict between two opposing reactions, but rather a set of conflicts. Individuals feel and experience contradictory reactions regarding different components of the same attitudinal object (Ruth, Brunel and Otnes, 2002). These contradictions have been studied in different contexts, particularly with respect to consumers' relationships to technologies (Mick and Fournier, 1998). When confronted with technologies, shoppers switch between reactions described as positive (e.g., feelings of control, freedom and usefulness) and reactions described as negative (e.g., feelings of chaos, enslavement and uselessness). Taken individually, each reaction is incontestably true, but when juxtaposed against each other, they appear inherently contradictory (Johnson, Bardhi, and Dunn, 2008).

This stream of research focuses on shoppers' ambivalence to technology. For instance, Schweitzer and Van den Hende (2016) and Schweitzer et al. (2019) demonstrate that individuals associate technology with negative reactions as disempowerment and enslavement. But they do not investigate the ambivalent reactions to the digitalization of retailing.

It is therefore at the crossroads of these sections of the literature that this research takes place.

Purpose

To address this main gap in the literature, we conceptualize the ambivalence of shoppers to the digitalization of retailing. We point out the theoretical and managerial interest of this concept in retailing. Thus, the objective is twofold: 1) to reveal the components of retail

digitalization associated with of shoppers' ambivalent reactions to retail digitalization and 2) to identify research priorities on shoppers' ambivalence to digitalization of retailing.

Therefore, according to the objectives of the research, a systematic literature review was conducted on the shoppers' contradictory positive and negative reactions to digitalization of retailing.

Research methodology

A systematic literature review on digitalization of retailing has been conducted. "In contrast to an expert review using ad hoc literature selection" (Kitchenham et al., 2009, p 8), a systematic literature review is a methodologically rigorous review of research results relating to a specific question (Denyer and Neely 2004). With its transparent approach, the systematic literature review enables to locate, analyze, report the evidence and reach reasonably clear and objective conclusions about what is and is not (Denyer and Tranfield, 2009). Taking that into account, we describe below 1) the selection process of papers and 2) the analysis process of papers selected.

Selection process:

A keyword search has been undertaken to identify relevant literature on the topic (Tranfield, Denyer, and Smart, 2003). The following terms were used: "digitalization", "digitization", "digital transformation", "digital marketing", "digital technology", "new technology", "technology infusion", "technology infused", "omni-channel", "cross-channel" and "multi-channel". To conduct the search, four inclusion-exclusion criteria were applied for including work in this study (Tranfield, Denyer, and Smart, 2003):

- Papers must have been published between January 2005 and May 2020 (inclusive). It is within this period that most papers have been published on the digital changes in retail landscape (Verhoef, Kannan, and Inman, 2015).
- Papers must have been published in the twenty Marketing journals ranked at least 3* by the Academic Journal Guide (2018) to focus on work that meet a high-quality threshold. Our selection also included papers published in the French journal "Recherche et Applications en Marketing".
- Papers meeting these two search criteria were kept (or excluded) depending on whether they outlined (or not) shoppers experiences or reactions to digitalization of retailing (Raddats et al., 2019).

The Appendix A provides the list of the reviews analyzed, their rank, number of papers selected in each journal, references of selected articles and their citations number (Google Scholar).

Analysis process:

To capture the increasing importance of digitalization in the shopping process, a detailed analysis of the 108 selected papers was conducted to systematically collect shoppers' negative and positive reactions outlined by the authors. Then, these reactions were gathered around key components (e.g. Utility, Personal data, Power, etc.) to highlight shoppers' contradictory reactions. Our conceptualization was built through an iterative coding process, involving discussions among the research team about the identification and conceptualization of the shoppers' ambivalence to digitalization. The aim was to allow the interpretation of the literature to be adapted and refined through the course of the study (Tranfield, Denyer, and Smart, 2003).

Eight components of the shoppers' ambivalent reactions to digitalization.

By adopting this rigorous approach, this research conceptualizes the shoppers' ambivalent reactions to digitalization of retailing. Table 1 presents our conceptualization with the eight components of shoppers' ambivalent reactions to digitalization: "Useful-Useless", "Fulfills-Creates needs", "Engagement-Disengagement", "Personalization-Privacy", "Control-Chaos", "Interaction-Isolation", "Freedom-Enslavement", "Expert-Ignorant". While these components are characterized as distinct, there are overlaps. For example, the shoppers' contradictory reactions about power (Freedom-Enslavement) are partially dependent on the accumulation of knowledge, acquired by the integration of digital technologies in their shopping experience, and the feeling of being expert or ignorant. However, each of the eight components makes separate contributions to the knowledge on shoppers' ambivalence to digitalization of retailing.

Table 1. Conceptualization of the shoppers' ambivalence reactions to digitalization: eight components

Component of digitalization	Description	Valence
Utility	Digitalization enables shoppers to compare and shop products and services when they want, where they want, with less physical and cognitive efforts. But at the same time, shoppers can feel that they spend more money, time and effort on shopping and perceive digital technologies as useless gadgets and complicating simple tasks.	Useful vs Useless
Need	Shoppers experience contradictory reactions to fulfillment of needs when digital technologies provide a solution to a need and make life easier for them. At the same time, digital technologies make shoppers aware of previously unrealized and undiscovered needs and desires.	Fulfills vs Creates needs
Consumer-firm link	By enabling shoppers to easily interact with firms, digitalization can increase involvement, flow, and shoppers' commitment to a retailer or a brand. Paradoxically, shoppers can also reduce their loyalty to one firm because they can easily flit between several stores, retailers or brands.	Engagement vs Disengagement
Personal data	Digital technologies facilitate the collection of personal information and enable the personalization of marketing efforts that are tailored to an individual's preference. Simultaneously, the collection of their personal information is perceived as a potential threat to privacy.	Personalization vs Privacy
Information	Digitalization may facilitate the control of information, allowing shoppers to easily access and compare information from various sources. At the same time, shoppers may perceive an informational chaos when they are confronted to unbroken and automated flow of information and offers sometimes contradictory.	Control vs Chaos
Social link	Digitalization may simultaneously facilitate human togetherness and human separation: shoppers have the possibility to interact with others consumers or sellers both in a virtual sphere and a physical space, but at the same time, they can be devoid of real relationship or voluntarily look for an isolation.	Interaction vs Isolation

Power	Digitalization brings spatial and temporal freedom as well as freedom of choice concerning when to buy, where to buy, from whom to buy. At the same time, technologies' use also give rise to more restrictions and may lead to feelings of enslavement to technology as soon as shoppers perceive that they cede their decision-making power to technology.	Freedom vs Enslavement
Skill	With the integration of digital technologies in their shopping experience, shoppers access to multiple information on a product/service. The acquisition of this new knowledge gives them the feeling of being expert. At the same time, by relying on digital technologies, shoppers dispense with thinking and making certain decisions and become assisted by technology.	Expert vs Ignorant

Original/value

This research brings three theoretical contributions. First, it proposes a critical account of the literature on digitalization of retailing. On the basis of a systematic literature review and a detailed analysis of 108 major papers on digitalization, this research challenges the rose-tinted view on this phenomenon, revealing that the shoppers' valence to digitalization is not always positive. Second, this research provides a first conceptualization of the shoppers' ambivalence to digitalization in retailing. It offers a fine-grained view of ambivalence by outlining the eight components it encompasses in a digitalized retail context. Third, this research identifies research priorities on shoppers' ambivalence to digitalization of retailing (Appendix B).

Practical implications

If the digitalization of retailing is only seen as a positive phenomenon, then it might explain why some firms fail to achieve successful integration of digital technologies in the shopping experience. Thus, identifying the components of shoppers' ambivalence to digitalization has relevant implications for managers. For example, one key success factor of technological devices usage is to optimize its perceived added value. This can go through the rise in shoppers' knowledge by providing them aid decision tools which enable a better accessibility to information and ease comparison of products and offers. As far as personal data is concerned, the perceived risk of privacy invasion requires transparent communication on how personal data is collected, used and which third parties may have access to this information. Equally, it might also be appropriate to leave more control to shoppers over the information authorized for collection and use, like what Californian managers do, and before them, European managers under the direction of the legislative framework of the General Data Protection Regulation (GDPR). As a result, this conceptualization guides managers to make sense of the heterogeneous reactions of shoppers towards the technologies they offer.

Research limitations and outlook

Despite its contributions, this study has two main limitations that represent potential research avenues.

Whereas the literature about the digitalization has largely been focused on one specific aspect of digitalization (Ecommerce, or the use of mobile to shop, or the utilization of digital technologies in stores, or Retail Network Services...), we have chosen an extended definition of digitalization as a basic unit to read the phenomenon. This paper responds, thus, to the call by Hagberg,

Sundstrom, and Egels-Zandén, 2016) to move beyond considering narrow aspects of digitalization to a more complete understanding of all-encompassing transformations. However, our definition choice induces that shoppers' contradictory reactions about one of these specific aspects of digitalization can be contingent of each technology. This opens several research avenues as mentioned in appendix B.

Another limitation is that digitalization is here discussed specifically within the context of individuals' reactions, and focuses especially on the shoppers. We conceptualize the potential and interpersonal ambivalence of shoppers to digitalization. Consequently, future work could use our conceptualization to investigate which components are prone to 1) felt and intrapersonal ambivalent reactions, 2) potential and interpersonal ambivalent reactions, or 3) only polarized reactions.

Besides, this conceptual research represents the first step of a larger research project that entails empirical data collection. Consumer ambivalence research hold that negative experiences generate anxiety and stress that elicit avoidance responses from individuals (Mick and Fournier, 1998). In the same time, positive shoppers' experiences increase the trust in technology and the likelihood that the technology can be relied on in the future (Johnson et al., 2008). But, what about ambivalent experiences? Consequently, it may be relevant to study the psychological and behavioral consequences of shoppers' ambivalence to digitalization of retailing (Giebelhausen et al., 2014).

Keywords

Digitalization, Retailing, Shoppers, Ambivalence, Systematic Literature Review

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Appendix

Appendix A: Database of selected papers

Review	Rank	No. papers	Authors (date)	No. citations ¹
European journal of marketing	2	2	Antioco and Kleijnen (2010)	120
			Yan (2010)	43
Industrial Marketing Management	2	2	Hossain and al. (2020)	0
			Lee and al. (2019)	18
International Journal of Research in Marketing	1	8	Bleier, Goldfarb and Tucker (2020)	1
			de Keyser, Schepers and Konuş (2015)	68
			Homburg, Lauer and Vomberg (2019)	1
			Kannan and Li (2017)	417
			Konuş, Neslin and Verhoef (2014)	66
			Ng and Wakenshaw (2017)	223
			Reinartz, Wiegand and Imschloss (2019)	34
			Verhoef, Neslin and Vroomen (2007)	901
Journal of Advertising	2	1	Becker, Linzmajer and von Wangenheim (2017)	7
Journal of Advertising Research	2	2	Levy and Gvili (2015)	77
			Voorveld et al. (2016)	29
Journal of Consumer Research	1+	2	Schroll, Schnurr and Grewal (2018)	26
			Summers, Smith and Walker Reczek (2016)	64
Journal of Interactive Marketing	2	27	Andrews et al. (2016)	105
			Balasubramanian, Raghunathan and Mahajan (2005)	519
			Barcelos, Dantas and Sénécal (2018)	45
			Barwitz and Maas (2018)	41
			Busca and Bertrandias (2020)	0
			Campo and Breugelmans (2015)	63
			Cebollada, Chu and Jiang (2019)	3
			Cruz, Leonhardt and Pezzuti (2017)	27
			Dholakia et al. (2010)	288
			Dholakia, Zhao and Dholakia (2005)	294
			Eigenraam et al. (2018)	16
			Flavián, Gurrea and Orús (2019)	3
			Gensler, Neslin and Verhoef (2017)	125
Kalyanam, Lenk and Rhee (2017)	4			
Kumar and Venkatesan (2005)	650			
Liu (2019)	4			

¹ Citations from Google Scholar (Mai 2020).

			Markos, Labrecque and Milne (2018)	10
			Pagani, Racat and Hofacker (2019)	3
			Petit, Velasco and Spence (2019)	41
			Rangaswamy and Van Bruggen (2005)	460
			Shankar et al. (2016)	217
			Sultan, Rohm and Gao (2009)	260
			Trampe, Konuş and Verhoef (2014)	37
			Urban, Amyx and Lorenzon (2009)	392
			Varadarajan and Yadav (2009)	167
			Verhoef et al. (2017)	68
			Yadav et al. (2013)	347
Journal of International Marketing	2	1	Nam and Kannan (2020)	1
Journal of Marketing	1+	12	Avery et al. (2012)	391
			Day (2011)	822
			Giebelhausen et al. (2014)	168
			Godfrey, Seiders and Voss (2011)	172
			Janakiraman, Ho Lim and Rishika (2018)	36
			Kumar et al. (2016)	424
			Kumar and Reinartz (2016)	292
			Kushwaha, Venkatesh and Shankar (2013)	307
			Lamberton and Stephen (2016)	451
			Lemon and Verhoef (2016)	1425
			Valentini, Montaguti and Neslin (2011)	141
			Yadav and Pavlou (2014)	334
Journal of Marketing Research	1+	4	Anderson et al. (2010)	95
			Ansari, Mela, and Neslin (2008)	673
			Fisher, Gallino and Xu (2019)	25
			Li and Kannan (2014)	275
Journal of Retailing	1	25	Ailawadi and Farris (2017)	185
			Bilgicer et al. (2015)	66
			Blut et al. (2015)	117
			Breugelmans and Campo (2016)	44
			Darke et al. (2016)	63
			Emrich, Paul and Rudolph (2015)	78
			Grewal, Roggeveen and Nordfält (2017)	462
			Herhausen et al. (2015)	359
			Herhausen et al. (2019)	15
			Hess et al. (2020)	0
			Hult et al. (2019)	25
			Konuş, Verhoef and Neslin (2008)	571
			Kwon and Lennon (2009)	262
			Li et al. (2015)	25

			Ma (2016)	17
			Melis et al. (2015)	204
			Melis et al. (2016)	40
			Rapp et al. (2015)	230
			Shankar et al. (2011)	477
			Valentini, Neslin and Montaguti (2020)	0
			Verhoef, Kannan and Inman (2015)	1213
			Wang, Malthouse and Krishnamurthi (2015)	363
			Weathers, Sharma and Wood (2007)	350
			Yadav and Varadarajan (2005)	130
			Zhu et al. (2013)	147
Journal of the Academy of Marketing Science	1+	3	Kuehnl, Jozic and Homburg (2019)	17
			Novak and Hoffman (2019)	24
			Guiry, Mägi and Lutz (2006)	188
Marketing Letters	2	2	Gensler, Verhoef and Böhm (2012)	175
			Koenigstor and Groeppel-Klein (2012)	53
Marketing Science	1+	7	Dzyabura, Jagabathula and Muller (2019)	13
			Jing (2018)	35
			Kireyev, Kumar and Ofek (2017)	34
			Manchanda, Packard and Pattabhiramaiah (2015)	190
			Montaguti, Neslin and Valentini (2016)	51
			Rust and Huang (2014)	261
			Zhang (2009)	112
Marketing Theory	2	1	Cluley (2019)	1
Psychology and Marketing	2	5	Johnson, Bardhi and Dunn (2008)	167
			Antón, Camarero and Rodríguez (2013)	100
			Schweitzer and Van den Hende (2016)	23
			Rippé et al. (2017)	25
			Verhagen, van Dolen and Merikivi (2019)	4
Recherche et Applications en Marketing	Off-R.	4	Badot and Lemoine (2013)	46
			Bèzes (2019)	2
			Collin-Lachaud and Régine Vanheems (2016)	32
			Michaud-Trévinval and Stenger (2018)	1

Appendix B: Research priorities concerning shoppers' ambivalence to digitalization of retailing

Research questions	Research themes
What are the characteristics stemming from digital device (e.g., frequency of use, interface customization, property) that engender shoppers' positive (vs negative) reactions? How do positive or negative feeling of shoppers due to some digital devices impact the shopping?	Digital devices
How the platform (e.g. Facebook, Twitter or Pinterest) characteristics affect shoppers' feeling during the shopping process?	Social Networking
When, how, and why do shoppers' journey design affect shoppers' reactions to technologies?	Shopping journey
When, how and to what extend shopping situation (e.g. shopping of food or technological products) affects valence of shoppers' reactions? Positive? Negative? Ambivalent?	Shopping situation
How do shoppers' failures/success in using technology in shopping experience (e.g. lack of knowledge, lack of practice, inability) affect the shoppers' reactions to digitalization? The shopping experience? When does shopper feel positive reactions (vs negative) to digitalization in his shopping experience? To what extent this feeling benefit (vs harm) to his evaluation of shopping experience?	Shopper experience and technology
When, how and to what extent shoppers' reactions to digitalization are ambivalent or polarized depending to the personal characteristics (e.g. shoppers' ability to technology, shoppers' access to technology, demographic elements)?	Shopper's characteristics

DIGITAL NATIVES' BUYING HABITS ACROSS CHANNELS - EVIDENCE FROM CONSUMER DIARIES

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Introduction

With new shopping channels, payment services and devices consumers face more choices in their everyday shopping opportunities. Retail touchpoints have different characteristics and research show that service value across touchpoints in a multichannel environment are experienced differently by consumers (Huré *et al.* 2017). Boundaries between different digital touchpoints are becoming blurred (Hallikainen *et al.* 2019), thus it is interesting to see whether this can be found in how and where consumers make their purchases. The different touchpoints can be conceptualised as situational factors, as they do represent situations. Situational factors have in the literature been modelled to represent more cultural and social factors (Grewal and Roggeveen 2020). For this paper, viewing the touchpoint or sales channel as a situational variable acknowledges that it is set in a particular context in terms of how, where and when the consumer shops.

There is extensive research on consumption behaviour in different channels (Frasquet *et al.* 2015, Sands *et al.* 2016, Frasquet and Miquel 2017, De Haan *et al.* 2018), however little is known on the more serial behaviour of individual consumers across channels. In addition to new devices that can be used for shopping, new payment solutions have also emerged to accommodate customer needs. Consumption behaviour across channels coupled with payment method used is scarcely researched. As different payment methods have been shown to impact consumption behaviour (Khan *et al.* 2015, van der Cruijssen and Plooij 2018), the interaction of channel choice and payment method is interesting to pursue.

By studying consumer diaries from young consumers (“digital natives”), a mapping of where and how these consumers buy different products across different retail channel touchpoints can be discerned. This study is done in the context of Sweden, which today is one of the countries with highest level of digitalisation and lowest cash use. New payment services have emerged, for example, digital invoice is becoming increasingly popular. Studies show that many western countries are on the path of becoming cashless (van der Cruijssen and Plooij 2018), thus Sweden serves as an interesting example which can have implications for how development might occur elsewhere.

The research questions for this paper is as follows: Is there consistency in individuals' serial shopping behaviour? What patterns can be noted across young consumers' everyday shopping lives and how do they use different channels and devices for different type of purchases? Exploring the how, when and where of purchases of consumers opens up for further research on the "why", that is: consumer motivations in the patterns discovered.

Purpose

The purpose of this paper is to map out the everyday purchases of young consumers and investigate how much "digitalisation" that forms their shopping behaviour by analysing which channels, devices and payment methods they use for different type of purchases.

With digitalisation and an increasing number of touchpoints consumers now face greater possibilities for shopping (Treadgold and Reynolds 2016), for this reason their motives have increased in complexity and new ways classifying consumption are increasingly visible in practice and research (Horváth and Adigüzel 2018). The aim of this paper is to contribute to the understanding of new ways of shopping and making purchases.

Conceptual framework

Earlier work on consumer behaviour concluded that situational factors and not only individual characteristics have a significant effect on consumer behaviour (Belk 1975). Situational factors have previously have been conceptualised to include factors internal to the participant such as mood, feelings, availability of money (Belk 1974, 1975, Badgaiyan and Verma 2015). The situational factors in this study is simplified into elements outside of the individual person, and thus does not include such internal motivators.

The situational factors for this study include five elements: the purchase amount, product type, store type, sales channel/device used for purchase, payment instrument. How these elements may affect consumer behaviour was conceptualised using previous literature.

The type of device used for shopping can influence behaviour, Wang *et al.* 2015, find that customers tend to increase their spending when adopting mobile shopping practices (tablet or smartphone), and that mobile devices is to a large extent used for habitual products because of convenience. Customers perceive higher security risks with mobile devices, but still show a higher purchase intention compared to a desktop device (Kaatz 2020). This study theorizes that the extent that different type of products are bought depends on which device that is used.

Choice of payment method can largely be traced to habit (van der Crujisen *et al.* 2017), but preferences also vary with purchase amount and environment (Abdul-Muhmin 2010, Wang and Wolman 2016). Substitution between different payment methods depends to a great extent on convenience (Borzekowski and Kiser 2008), which is also a strong predictor of mobile payment adoption (Park *et al.* 2019). Spending behaviour can also be affected by method of payment (Khan *et al.* 2015), for example credit-based alternatives is shown to increase spending (Runnemark *et al.* 2015). This study theorises that differences in which payment method is used, will vary depending on the five situational elements listed above.

Design/methodology/approach

This paper uses empirical data collected from 119 consumer diaries of persons in between 20-24 years, during 1 week of everyday purchases and transactions. The participants were students enrolled in an undergraduate program in service management, of which 30 percent were men.

Given that all were full-time students, it is assumed that there is a fairly homogenous income distribution among the participants. The data added up to approximately 1600 purchases in total. Collecting data with diaries where doings are recorded continuously can be superior to surveys or interviews where consumers have to estimate their behaviour in past times or hypothetical situations. It has been shown that there is a bias when consumers have to recall their purchases (Wind and Lerner 1979).

The diaries were designed with pre-determined fields, which the consumer had to fill in, but included an open field for self-reflection.

With an initial content analysis, the purchases were divided into categories of “social purchases”, “necessary purchases”, “recreational purchases” and “non-essential purchases”. These categories were based on a synthesis on how previous literature has divided different type of purchases.

Subsequently, the data was analysed with descriptive statistics and correlation matrices in order to discover patterns across the consumers. The data was also checked for differences across gender. Furthermore, consistencies/inconsistencies in individual behaviour was studied, for example if an individual was consistent in purchasing certain product types in the same way.

Finally, the respondents’ reflections in the diaries were analysed with content analysis.

Preliminary findings

A majority of the consumers make “social purchases” in the physical environment, such as going to a café for coffee and cake or a bar for beer. Many of them also still buy their groceries physically. Other products such as clothes, books, are bought online mostly through the computer, but also on-the-go with their smartphone. The smartphone is frequently used to buy tickets for local transportation and to transfer money between friends and also to pay bills. One consumer gave a reason for paying bills with a smartphone:

“It is easy to scan the bills with your phone, at least those that have a QR-code, then you don’t have to write in the long number series”.

In regard of payment methods, the most used one is the debit card. The purchases made with cash is extremely low, approximately 1-2 percent. Some consumers reflected upon the low use of cash. One expressed that he at one time wanted to use cash but did not have any in his wallet, another one reported that she always used debit card even if she had cash in her wallet because it was faster. Almost none of the consumers use a credit card, however they tend to shop online using invoice as a payment method. Other devices that are used for making purchases included: Smartwatch, Game console and TV.

We find that these consumers are not always planned in their shopping behaviour and use different channels for the same type of products. One example is a woman who one day shops for groceries in a physical store, and then the following purchase the same day she orders a single toothbrush online from an online retailer that offers pharmaceuticals and hygiene products. In this instance the rational thing would have been to buy the toothbrush with the grocery shopping, it is also intuitively struck as odd to order a toothbrush online if it was something that she had forgotten during the grocery shopping as it would take a few days to deliver. Finally, not dwelling too much on the toothbrush, it is also traditionally categorised as an ordinary good or repeat purchases which would then also not be an expected one time online purchase. But this and other examples are perhaps signs that everyday purchases are moving to the online channel.

Original/value

In contrast to previous diary studies, this systematically takes into account that consumers can shop in different channels on different devices. It shows the serial behaviour of individual consumers and which channels they choose for different type of products and services. It draws conclusions on patterns which can be seen among young consumers' shopping habits. This is of interest to marketers in understanding shopping behaviour in the increased digital retail landscape.

Practical implications

From the analysis of where young consumers buy products and through which devices, companies can adapt their service offer for this target group and also make sure to be present at the particular touchpoint where it is most likely that they will make a purchase.

Social implications

With less cash use, consumers are able to gain control over their spending since everything is registered electronically. It might however also contribute to more spending since research has shown that consumers have a higher willingness to pay with debit card rather than cash (Runnemark *et al.* 2015). With new credit options available this might affect young consumers to add more debt to their account without thinking of the consequences.

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Keywords

Multi-channel shoppers, Payment services, Young consumers, Diary study, Channel choice, On-the-go consumption



“AT THE SOURCE OF INTEGRATED INTERACTIONS ACROSS CHANNELS”

In what is now an omnichannel context, channel integration has become a priority for most retailers. But how in practice should the channels be combined for this integration to be perceived by customers? The research design uses an online survey on four different types of existing multi-channel buyers. Based on recent research in psychology, this study conceptually demonstrates that integration perceived by consumers, particularly integrated interactions, is the outcome of a judgment of congruence that, rather than opposing channels, seeks to build relationships between them in order to combine them better. The empirical study shows that channel integration is a cumulative, selective and subjective psychological process.

Full integration does not imply that the retailer in question homogenizes or even matches up all the attributes of its channels. The retailer is thus able to act on attributes that promote this integration, while being relatively free to cultivate the incongruence of other attributes more likely to smoothly guide customers to a particular channel – in other words, a path midway between cross-channel and omnichannel.



“THE GAME OF SHOPPING: HOW TO ENGAGE CONSUMERS TO BUY TOWARDS MOBILE APPS”

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Purpose – The purpose of this paper is to examine the influence of several intrinsic motivations on the consumer’s buying intention using a mobile device, namely shopping gamification, focused attention, shopping enjoyment and socialness, through the mediating role of shopping engagement. Moreover, the online shopping experience is investigated in its dual role as direct driver of the intention to buy in a mobile app and as moderator of the shopping engagement – the intention to buy using a mobile app path.

Design/methodology/approach – The empirical analysis was performed in China due to the extensive usage of mobile shopping apps among the Chinese population. A structural equation model was estimated on 893 valid and completed structured questionnaires collected among Chinese consumers.

Findings – Findings confirm that intrinsic motivations (i.e. shopping gamification, focused attention, shopping enjoyment and socialness) indirectly influence the intention to buy using a mobile device by the means of shopping engagement. Most remarkably, results show that online shopping experience positively moderates the shopping engagement – intention to buy using a mobile app relationship.

Originality/Value –The novelty of the paper lies in the analysis of several intrinsic motivations related to shopping gamification, contributing to the scant literature on the topic. The study investigates intrinsic motivations as antecedents of shopping engagement and indirectly of the mobile shopping intention. Furthermore, the paper provides insights into the moderating role of the online shopping experience.

Keywords – Mobile shopping; Engagement; Gamification; Online shopping experience.

Paper Type – Research paper

THE IMPACT OF THE INTRODUCTION OF THE ONLINE CHANNEL IN GROCERY CONSUMER BEHAVIOR¹

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Introduction

Nowadays, companies and consumers interact in a multichannel context in which the proliferation of channels and devices define the main business challenges (Grewal et al., 2017; Leeftang et al., 2014; Verhoef et al., 2015). The multichannel strategy means that new channels are added to the existing channel mix, allowing consumers to combine different channels during the purchasing process. Following Lambertson and Stephen (2016), the distinction between digital and traditional marketing is no longer valid in some settings in which almost all the marketing activities have some digital features. In this regard, the Marketing Science Institute (MSI, 2018) highlights that the consumer hyperconnectivity influences the way customers interact with companies and underlines the need to understand the complex journeys of the new purchasing processes.

Notwithstanding, the literature still has not provided conclusive evidence on the profitability of the multichannel strategy. In this sense, whereas some initial studies in the multichannel context argued that multichannel consumers are more loyal to the company (Wallace et al., 2004; Venkatesan et al., 2007), other authors point out that loyalty to the new online channel

¹ This paper was financed by the Spanish Ministry of Science, Innovation and Universities, Spanish State Research Agency (Research Grant ECO 2017-83051-R).

is lower than loyalty to the pre-existing channel, and indeed, loyalty to both channels decreases with the addition of a new channel (Gensler et al., 2007). This fact has been justified in the sense that, as far as consumers gain experience in the online purchasing process, they start to easily switch from the online store of a retailer to the e-store of another retailer, what would suggest that multichannel buyers are less loyal to the retailer (Bilgicer et al., 2016).

Moreover, many retailers are in transition to the multichannel retailing, thus needing to reset their capabilities to manage marketing channels, new logistic processes, and the huge quantity of data that the multichannel activity generates.

Purpose

The main aim of this study is to analyse the impact of the introduction of the online channel on consumer behaviour, with a double objective: firstly, to shed light on the existent controversy in the literature regarding whether the online channel contributes or not to increase customer loyalty towards the retailer and, secondly, to infer managerial implications for the management of the online and offline channels of retailers. To achieve this aim, we analyse the combined use of the online and offline channels by multichannel grocery shoppers, characterised by repetitive, utilitarian purchases with low risk (mainly packaged food products).

Conceptual framework

Retailers have massively opened online stores, initially managing the online channel as an independent division, but later trying to coordinate and integrate the online and the offline channels (Herhausen et al., 2015), in transition from a multichannel model to an omnichannel model that aims to blur the borders between both channels (Verhoef et al., 2015). Some initial studies in the multichannel context argued that the multichannel consumer was more loyal to the company (Wallace et al., 2004; Venkatesan et al., 2007). In contrast, after exploring the loyalty to the different channels of the company, Gensler et al. (2007) found that the loyalty to the new online channel is lower than the one of the pre-existing channel, and moreover, the loyalty to both channels diminishes with the addition of a new channel. Similarly, Bilgicer et al. (2016) found that as far as consumers gain experience in the online purchasing process, it becomes easier for them to switch from a retailer's online store to the website of another retailer, thus resulting in lower levels of loyalty towards the retailer.

To deepen in the understanding of the purchasing processes in the multichannel context, Bradlow et al. (2017) highlight the need to use a huge quantity and variety of data at individual level that the multichannel customer generates. These include the transactional data of the offline and the online channels, provided by loyalty cards, among others (Grewal et al., 2017). Focusing on customers who are holders of a loyalty card, we assume that the retailer's decision to add a new channel may facilitate purchasing from this retailer and, therefore, the benefits from being a loyal customer of this retailer. Thus, we posit:

H1: The introduction of the online channel contributes to increase customer loyalty towards the retailer.

In order to differentiate themselves from competitors and increase customer loyalty, retailers have introduced and developed a strategy regarding private labels (PL) or store brands (Ailawadi et al., 2008). Past research has found that non-users of PLs know less about these brands than non-users of national brands about the latter (Dawes and Nenycz-Thiel, 2014). This difference in knowledge about brands has been explained by out-of-store advertising for national brands. Notwithstanding, in the online environment, private labels may be more likely to be noticed by non-users thanks to the retailer's actions, e.g. links to PL lines in the

retailer's online store. Indeed, empirical evidence has been found in the sense that PL products enjoy a slightly higher share of purchases online than offline (Dawes and Nenycz-Thiel, 2014). Thus, we posit:

H2: The introduction of the online channel contributes to increase sales of the retailer's products under private label.

Design/methodology/approach

To achieve the proposed objective, quantitative research has been conducted using scanner data. Table 1 shows the main research features.

TABLE 1. Technical details of the research

Universe	Grocery shoppers
Geographical scope	Spain
Sample size	4,780,236 tickets belonging to 2,494 multichannel member customers (584,619 online tickets and 4,195,617 offline tickets)
Sample design	Scanner data (tickets of online and offline purchases)
Data collection period	18 months before and 18 months after the introduction of the online channel
Statistical techniques	Descriptive analysis Non-parametric tests for means differences between groups (related samples)
Statistical Software	R version 3.4.2 IBM SPSS version 26

In order to conduct this study, we have a database of purchase tickets from one of the largest grocery retailers in Spain, that includes data on purchases made both online and offline by customer cardholders of the loyalty program.

Only tickets of customers who have been holders of a member customer card during the whole period of the study (i.e. 18 months before and 18 months after the introduction of the online channel) have been taken into consideration for the present analyses.

In order to analyze the behavior of those that may be considered as regular, representative customers of this retailer and exclude outliers, we consider in the final sample the tickets of those consumers whose total expenditure in the whole period is between the first quartile (i.e. $Q1 = 4,054.07$ euro) and the third quartile (i.e. $Q3 = 15,832$ euro). The household average expenditure in groceries in Spain in 2018, 4,223.33 euro, according to the Spanish Institute of Statistics (INE, 2020), is included in this rank (i.e. between 1,351.36 and 5,277 euro per year), so that we can consider this sample as representative of the Spanish population of grocery consumers. Finally, data for 1,041 customers were analyzed in the present study.

Findings

Since the objective of this paper is to analyze multichannel consumer behavior after the introduction of the online channel in comparison to the previous period, the analysis is focused on scanner data of multichannel consumers (i.e. holders of the retailer's loyalty card that have ever bought online during the period studied).

Regarding the average expenditure per customer (in general, for all products), the purchase frequency (number of tickets), total expenditure and average percentage of expenditure in private label, Table 2 shows average values and non-parametric tests for differences between groups, i.e. Z for the Wilcoxon signed ranks test and for the Signs test.

TABLE 2. Average values and non-parametric tests for differences between groups

	Month 1-18 Pre-multichannel (April 2015-Sept. 2016)	Month 20-37 Multichannel period (November 2016- April 2018)	Variation (%)	Wilcoxon signed ranks test (p-value)	Signs test (p- value)
Average expenditure per customer (euro)	4433.22	4543.64	2.49	-2.028 (0.043)	-4.401 (0.000)
Number of tickets	96.12	77.72	-19.14	-5.423 (0.000)	-2.616 (0.009)
Total expenditure in private label (euro)	850.55	957.93	12.62	-2.311 (0.021)	-2.480 (0.013)
Average percentage of expenditure in private label	19.66	21.63	10.02	-4.020 (0.000)	-2.418 (0.016)

As evidenced in Table 2, significant differences are observed between the period previous to the introduction of the online channel and the multichannel period. Regarding the average expenditure per customer (in general, for all products), for the customers included in the sample, an increase of 2.49% is observed after the introduction of the online channel, being the difference between both periods significant both for the Wilcoxon signed ranks test ($p < 0.05$) and the Signs test ($p < 0.000$). Concerning the purchase frequency (measured as number of tickets), a significant drop is observed (-19.14%), that allows to infer the increase in the value of each purchase.

As far as expenditure in private label is concerned, both significant increases are observed in total expenditure in private label (12.62%) and average percentage of expenditure in private label in comparison to the total expenditure (10.02%). These increases are higher than the increase in the average expenditure per customer (i.e. 2.49%). With the use of the online channel, where private label products are usually promoted by this retailer, purchases of these products increase significantly when using the online store, being expenditure in private label products 25.23% of money spent in online purchases in contrast to 19.86% for in-store purchases (Z Wilcoxon signed ranks test: -6.240; p-value: 0.000). Online sales amount 42.64% in contrast to offline sales 57.36%, being variability in online expenditure (standard deviation: 2343.00) higher than for offline sales (standard deviation: 2149.88). All in all, we find support to Hypotheses 1 and 2, since we find evidence in favor of the positive impact of the introduction of the online channel both on customer loyalty and private label sales.

Original/value

The present study provides evidence in the sense that adding the online channel has a positive impact on the purchasing behavior of customers who are already holders of the loyalty card. These are relevant results for grocery retailers who have implemented (or are considering the implementation) of a loyalty program in the context of multichannel retailing.

Practical implications

Grocery retailers can obtain important gains from the introduction of the online channel, since the total amount spent by their customers increase. Importantly, the online store can be used as a tool to promote the sales of products under private label, thus contributing to patronize grocery shoppers.

Research limitations and outlook

Due to customer data protection regulations, the retailer could not provide researchers with sociodemographic data, so that it was not possible to take into account changes in a client's quality of life: marriage, birth of children, new needs, income level, etc. Furthermore, only one retailer and holders of the retailer's loyalty card are analyzed. Since grocery retailers are characterised by mainly commercialising utilitarian products with low risk of online purchase,

results should be validated considering other types of product (e.g. hedonic products and/or items with high risk in online purchasing). Moreover, other food retail formats and additional geographical contexts should be taken into consideration in further research.

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Keywords

Scanner data, online channel, multichannel consumer behavior, grocery retailers.

**ARTIFICIAL INTELLIGENCE IN RETAIL: APPLICATIONS AND
VALUE CREATION LOGICS**

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ARTIFICIAL INTELLIGENCE IN RETAIL: APPLICATIONS AND VALUE CREATION LOGICS

Introduction

Exponential progress in machine learning, deep learning, natural language processing, and computer vision technology, fueled by combinations of cloud, big data, and new algorithms, is leading to the development of artificial intelligence (AI)-based solutions for retail.

However, McKinsey (McKinsey, 2017) revealed that more than four in 10 (41%) of the investigated retailers were uncertain about AI's benefits, specifically the business cases and return on investment (ROI). Thus, it is important to understand how retailers can apply AI in their diverse activities and create value for themselves and their customers, especially based on multiple-firm case studies (Holtel, 2016, Kaartemo and Helkkula, 2018).

Despite increased attention, the theoretical and empirical knowledge of AI's applications in retail remains limited and offers few insights to help top managers capture AI-driven business opportunities. Most existing studies investigated only one retail activity, such as sales forecasting (Aras et al., 2017, McIntyre et al., 1993), retail segmentation (Boone and Roehm, 2002), customer service and relationship management (Chopra, 2019, Kumar et al., 2019, Robinson et al., 2019, Seranmadevi and Senthil Kumar, 2019), warehouse management (Mahroof, 2019), or merchandising management (Singh et al., 1988). The investigation of the generic advancement of AI in retail remains limited. (Grewal et al., 2017) broadly envisioned AI's influence on future retail and (Shankar, 2018) further suggests that retailers can use and benefit from AI in multiple ways. However, their study is descriptive, without providing the details about how retailers can apply AI and create values through the applications. More studies, especially multiple-case ones, are needed to investigate the best practices of AI applications in retail.

Regarding the value creation logics of the application of AI in business and management, most of the existing studies are based on limited logic and have not yet clearly identified the detailed mechanisms linked to each logic. For instance, automation (Duchessi et al., 1993, Garbuio and Lin, 2019, Wright and Schultz, 2018), complementarity (DeCanio, 2016, Jarrahi, 2018, Riikkinen et al., 2018, Shrestha et al., 2019, Singh et al., 2019, Wirth, 2018) and personalization (Garbuio and Lin, 2019, Kumar et al., 2019).

Purpose*

We address these theoretical gaps by identifying the main and detailed applications of AI and their value creation logics as well as their related mechanisms in retail.

Conceptual framework

Conceptualizing AI

AI is defined as an ability exhibited by machines (Haenlein and Kaplan, 2019, Namaki, 2018, Pan, 2016, Syam and Sharma, 2018, Wirth, 2018). This ability refers to the capabilities of simulating human intelligence, particularly those involving cognition (DeCanio, 2016, Holtel, 2016, Namaki, 2018, Syam and Sharma, 2018).

Second, AI relates to a machine, which is not a simple mechanical device that is not only able to apply preprogrammed decisions (Makridakis, 2017) but is a system that can learn how to learn (Haenlein and Kaplan, 2019, Humerick, 2018). This system perceives its environment and takes actions that maximize its chances of success at a specific goal (Haenlein and Kaplan, 2019, Wirth, 2018).

Third, AI is not a static state but relates to very dynamic processes (Humerick, 2018, Namaki, 2018, Pan, 2016, Wirth, 2018). These processes allow an AI to “continuously learn from, and solve new problems within, an ever-changing environment, based on its continuing collection of data” (Humerick, 2018), and include “learning (the acquisition of information and rules for the use of this information), reasoning (using rules to reach approximate or definite conclusions) and self-correction (self-initiated adjustment or mending of errors and malfunctions).” (Namaki, 2018).

Understanding AI applications from two perspectives

How can firms use AI in their business? Two main approaches appear in the literature: data-centric vs. solution-centric perspectives. Data-centric perspectives assert that AI applications are highly data-driven and need to focus on data management (Brock and von Wangenheim, 2019, Shankar, 2018). Firms’ data management capabilities, especially cloud computing (Shankar, 2018), make their data ready for AI to analyse (Brock and von Wangenheim, 2019) and ensure that firms’ computing is powerful enough to support advanced algorithms (e.g. machine learning (ML), deep learning, and neural networks) so as to produce desired results for firms (Seranmadevi and Senthil Kumar, 2019). Vice versa, the adoption of AI technologies boost firms’ data management, especially big data capabilities. AI enables firms to collect huge volumes of data in real time, treat various data (including numeric, text, voice, and visual/image/video data), and analyse big data more effectively (Shankar, 2018). Thus, firms implement AI typically associated with other advanced digital technologies (e.g. Internet of Things / IoT and cloud computing) in firms’ digital transformation projects (Brock and von Wangenheim, 2019).

In contrast, solution-centric perspectives highlight that AI applications are oriented by providing solutions to help address business issues and need to focus on analyzing the applications landscape (Garbuio and Lin, 2019). AI systems’ contributions are more likely to be a function of how they integrate and interface with other hardware, software, policies, procedures, and organizational arrangements that collectively constitute an improved business process (Duchessi et al., 1993, Kumar et al., 2019). Thus, AI is deployed mostly in support of firms’ existing business, demystifying some of the transformative claims made about AI (Brock and von Wangenheim, 2019).

On its own, neither perspective can fully discuss AI applications because AI applications relate to both digital transformation projects and incremental approaches focused on current business (Brock and von Wangenheim, 2019). We approach our empirical study from both perspectives to understand AI applications, focusing on two main areas: AI-related data management and AI-powered solutions in business.

Value creation logic

The concept of value creation logic, which was originally developed by (Stabell and Fjeldstad, 1998), refers to the typology of the alternative value creation forms for expressing and exploring how firms differ competitively. We adopted (Sorescu et al., 2011) and (Cao et al., 2018) view of value, which focuses on the value created for retailers and their customers.

Design/methodology/approach*

To achieve our research objectives we used a multi-case inductive study approach, based on a comparative analysis of 54 retail firms. We followed the procedure recommended by (Eisenhardt, 1989) and (Yin, 1994).

Given the application of AI is developing very quickly in the retail area (Shankar, 2018), we used the Factiva database to identify the most mentioned retail firms at the level of AI’s

applications all over the world. We identified around 6,917 articles published between 2001 and 2018, with the most during 2016 (8.1%), 2017 (25.62%), and 2018 (55.39%). This observation reflects that AI started to take off from 2016 as well as its upward trend in retail.

Using the information in the 6,917 articles, we first identified AI-enabled retailer activities and the 54 most mentioned retailers in the 6,917 articles. Totally, the sample firms were located in 10 different countries, despite U.S. retailers dominated, accounting for 50% of the total sample. The top three industries applying AI in firm activities are Internet and direct marketing retailers (31.5%), Department stores (11.1%) and Food retailers (9.3%). Then we sought to supplement the emerging material for these firms by looking at the information provided by the other databases (e.g., EBSCO, Euromonitor, and EDGE) and firm websites.

We conducted a two-stage data analysis. First, we identified and categorized AI-based retail firm activities. Second, we identified the value creation logic of AI-enabled retail activities.

Findings*

AI-enabled retailer activities

We did a content analysis on 54 retailers’ AI applications between 2001 and 2018 and found that these firms applied AI in their diverse activities, focusing on the five management types: customer service, (physical and virtual) store, supply chain, strategy, and cybersecurity. We also identified 14 dimensions and 34 subdimensions of AI-enabled activities linked to these five retail management types (see Table 1).

Table 1. AI-enabled Retailer Activities

Management type involved in AI applications	Dimensions of AI-enabled firm activities	Sub-dimensions of AI-enabled firm activities
Customer service management	Understand customers	Data gathering from different channels, such as physical stores, Internet, mobile, and social channels
	Guide customers to what they want	Analyzing multi-layered data on each customer Helping each customer to find the ‘right’ products and services faster and easier Sending tailored communication messages to every customer Providing personalized product and service recommendations Empowering store associates to provide shoppers with personalized recommendations
	Facilitate customers’ buying and after-sales	Providing shoppers with virtual try-on or virtual shopping experiences Shortening the path-to-purchase for customers Simplifying customers’ ordering (voice-ordering, easy buttons...) Automating after-sales services for customers
Store (physical and virtual) management	Arrange online and offline merchandising	Automating space planning and product placement.
	Provide store services and save on store operation costs	Facilitating product catalog creation and category management. Optimizing product exposure (sorting customer reviews, improving photographic attributes). Providing sales assistance (robot, AI-powered apps, AI voice-powered systems, AI-powered smart glasses). Automating store operations (checkout, lighting, and temperature control).
	Decide pricing and promotion	Facilitating coupon or discount creation. Optimizing pricing and promotions.

Supply chain management	Strengthen store security	Reducing in-store inventory loss and shrinkage. Detecting fraudulent products and fake reviews.
	Optimize replenishment	Optimizing assortment decisions.
	Automate warehouse operations	Automating ordering. Connecting customer demand and inventory supply across channels. Sorting an endless variety of products into an order.
Strategy management	Optimize and automate delivery service	Identifying goods in pallets or by customers and automating dispatch. Monitoring inventory levels so as to achieve inventory accuracy. Automating customer order fulfillment (e.g., using a drone to deliver customer orders). Modeling delivery options.
	Decide marketing strategies	Optimizing ads spend.
	Decide on store locations	Prioritizing the most successful campaigns and channels. Educating managers for decision making on establishing new stores or relocating existing ones. Optimizing store networks.
Cybersecurity management	Detect fraud in the network	Detecting cyber-attacks.
	Automate data classification	Detecting fraudulent payments or address Protecting the most sensitive data.

Creation logics in AI-enabled retailers' activities

We grounded in rich data from 54 multiple-firm cases, identifying four major value creation logics in AI-enabled retailer activities: automation, hyper-personalization, complementarity, and innovation and 14 mechanisms linked to these logics (see Table 2).

Table 2. Logics and mechanisms of AI-enabled retail activities' value creations

Value creation logics	Mechanisms	Examples of AI applications
Automation	Saving on labor costs	AI chatbot providing 24/7 customer services; AI-powered robotic solutions in the warehouse; Automatic data management; Auto shelf replenishment, Checkless Store
	Saving transaction costs	Auto-ordering; Voice-based ordering; Automated agents for decisions; Automating to target right persons and trigger conversation to lead to buy
	Increasing the speed of the value chain process	Automated coupon creation; AI-based design system to shorten the fashion cycle; AI assisting to capture real-time data and making instant actions; Drones proving faster-delivering services; Chat-based bot providing speed services
	Improving operational accuracy	AI automating product catalog creation process without errors; AI-powered inventory management to reduce inventory shrinkage;
Hyper-personalization	Improving a relevant offering	Robotic companion providing unique product recommendation
	Providing a unique shopping experience	AI-enabled visual or robotic personal shopping assistant; AR/VR-powered shopping services
	Creating consistency across channels	AI-based streamline and unobstructed customer journey management
Complementarity	Creating synergies between AI and retailers' employees	AI-based sales assistants; Intelligent algorithms assisting human stylists; Machine learning-enabled merchant assistants

	Creating synergies between AI and customers	AI-powered online search process assisting shoppers to search products; AI-enabled mobile apps helping shoppers to navigate stores
	Creating synergies between AI and other technologies	The combination of AI and cloud computing, IoT, blockchain, 3-D printing, and mobile technologies
Innovations	New products	AI-designed products
	New services	AI-enabled image recognition
	New channels and retail formats	Voice bots; Checkless stores
	New business models	AI-powered on-demand business model; AI-powered inscription business model

Original/value*

We make two contributions to the AI adoption and value creation literature. First, we have advanced the research into AI's applications in retail by developing the investigation of the generic advancement of AI in this sector. Second, we extend the literature on AI's value creation by adding a new logic relating to innovation and identifying the detailed mechanisms linked to each value creation logic.

Practical implications

We provide useful insights for retailers on how to scale their AI applications across their organization as well as how to prioritize and provide a rationale for their AI investments.

Social implications

Our study provided concrete cases and best practices to illustrate how AI works with retailers' employees to improve their customers' shopping experience, increase business operational efficiency, and optimize decision-making. Thus, our findings are helpful for retailers to argue that AI can empower human instead of only replacing them. The remained challenge for retailers is how to bridge the gap between humans and AI by training their current employees.

Research limitations and outlook

Our study opens many possibilities for future research. First, using longitudinal data gathered from secondary sources has important advantages (e.g., diverse AI development and public availability of data) for investigating AI's generic advancement in retail. However, to understand how retailers change their cultures and organizations to scale AI across organizations, secondary data remains a limitation. Thus, further research using primary data collected by deep interviews with retail managers and field observations in firms are needed.

Second, we investigated the value creation logics of AI-enabled retailer activities so as to understand the mechanisms by which AI applications can influence firm performance. A qualitative study based on multiple-firm cases is relevant, considering that the development of AI is fairly new in retail. However, our study is exploratory, and we would welcome more quantitative studies to provide further empirical evidence on diverse AI-enabled activities' impacts on firm performance.

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Keywords*

Artificial intelligence, AI, AI application, value creation, retail sector



“THE USE OF ARTIFICIAL INTELLIGENCE IN COMPLAINT MANAGEMENT”

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To distinguish from other competitors, companies have to establish good quality and price but also an excellent service policy. Especially the after-sales service should guarantee that customers having problems are supported and satisfied. Following, good complaint management is important. With the increase of economically profitable chatbots, there is a possibility to provide a 24/7 service to the customers. To investigate what kind of chatbot avatar, which compensation, and what kind of reaction lead to a higher behavioral intention, a 2x2x2 between-subject design was conducted (N=389). The results show that the choice of the avatar, the reaction, as well as the compensation, play a decisive role in influencing consumer behavior and, thus, increase the probability that the customer, despite a complaint, returns and buys again from the retailer. Further, the behavioral intention can be explained by the mediating influences of anthropomorphism and the evaluation of redress.

REVISITING AUSTRIAN RETAIL LOGISTICS – AN EVALUATION OF PROMISING TECHNOLOGIES AND FUTURE RETAIL LOGISTICS PRACTICES

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Abstract

Purpose – The purpose of the present research refers to the identification and application practice of retail logistics technologies and concepts. It aims at the selection of appropriate novel technologies and concepts considered relevant for application for store retailing in Austrian retail businesses.

Design/methodology/approach – The methodology is based on secondary (i.e. literature review) and primary (i.e. qualitative research with semi-structured interviews and an expert workshop) research. To validate literature and the results of the interviews, the expert workshop with interdisciplinary retail technology and retailing experts proved to be an important methodological step to achieve an unbiased and objective view on insights.

Findings – The underlying applied research approach captures the status-quo in retail logistics practice concerning novel technologies and concepts. The web to store / store to web approach is regarded as highly relevant for the future of the Austrian retail from both, retailers and experts. Through its scalability the concept also holds great potential for smaller retail companies.

Practical implications – Implications reveal those retail logistics technologies and concepts – corresponding to the research context – that potentially support order processing and the fulfilment of the logistics process steps from a business perspective. This concerns in-store customer experience on the one hand and required order processing as well as logistics fulfilment operations on the other hand.

Originality/value – This is the first study that analyses relevance, applicability and fit of retail logistics technologies and concepts in Austrian retail environments.

Keywords Retail logistics, Technology integration, Digital retail, Brick-and-mortar retailing, Technology fit

Paper type Research paper

Introduction

Online retailing has been very successful in exploiting the possibilities of digitalization and is thus experiencing an annual increase in revenues. However, brick-and-mortar retail is still the largest sales channel by far (Statista, 2020). For years, the threat from globally operating e-

commerce companies such as Amazon or Alibaba to store-based retailing has been growing. However, studies show that consumers prefer hybrid shopping models (Arora *et al.*, 2017; Buschmann *et al.*, 2015; Collin-Lachaud and Vanheems, 2016; Metter, 2017) which combine the advantages of both worlds - online and offline - and thus offer maximum benefit and convenience. The rapid growth of the online retail sector has produced numerous innovative products and services. Some of these innovations also offer the opportunity to brick-and-mortar retailing to advance their already existing advantages with new technologies (Grewal *et al.*, 2017). In this vein, especially logistics and its related technologies and concepts play a crucial role in effectively managing these two worlds of retailing. Today, retail logistics is no longer limited to store distribution or warehouse management, but comprises processes including material, information, and financial flows from suppliers to consumers and vice versa. Innovative technologies are expected to impact organizational structure, strategy, communication, and operational procedures of retailers' businesses (Pantano and Naccarato, 2010; Xing *et al.*, 2011). Applicability and fit of logistics technologies and concepts in future stores will be a decisive element in this disruptive but inevitable development. Scholars as well as practitioners believe that retailing can benefit from these technological opportunities (Willems *et al.*, 2017). However, it is unclear to a certain point, which technologies and concepts (e.g. robotics, exoskeleton systems, 3D-detection systems etc.) are the most promising for retail logistics.

Technology investments often bring high costs and disruption – without guarantee of success. Especially smaller retail businesses usually lack resources and expertise to form an opinion on technologies and determine which are worth investing in (Renko and Ficko, 2010). For that reason, they are the last to adopt novel technologies (Pantano and Vannucci, 2019). However, when it comes to the development and expansion of the range of services offered by technology-supported processes in logistics, companies of all sizes are facing major challenges. Big retail companies are mostly faster in testing as well as adopting novel technologies, due to their financial capabilities and the corresponding risk-taking propensity. This is why our research focus is on them.

Our research investigates the current state of store-based retailing in Austria. The focus is on the logistics technologies and concepts that potentially support order processing and the fulfilment of the logistics process steps from a business perspective. In order to meet customer requirements in stores and enhance overall process performance, the supporting logistics processes are decisive for retailers. However, technology-supported processes in logistics should not be considered for their own sake – without taking the practical relevance into account (Stern and Ander, 2008).

The research question, the methodology and the context of the research are presented in the following section. Afterwards the steps of the chosen research design and the sample of the investigated companies are described. Next, identified retail logistics technologies and business perspectives from the secondary research are discussed. This is followed by the results and implications. Finally, limitations, an outlook and the conclusion are provided.

Research question, methodology and context

In order to give Austrian retailers guidance and address the above-mentioned issues, the following research question ensues:

Research Question: Which technologies and concepts of retail logistics are expected to become highly relevant for brick-and-mortar retailers in Austria from a business perspective within the next few years?

The answer to that research question shall compile a comprehensive view on future logistics technologies and concepts that support both order processing and the fulfillment of logistics process steps and are considered relevant for store-based retailing in Austria from a business perspective.

The methodology is based on secondary (i.e. literature review) and primary (i.e. qualitative research with semi-structured interviews and an expert workshop) research. The research process consists of three steps: (i) identification of innovative logistics technologies within the retail context, (ii) selection and validation of relevant logistics technologies, and (iii) consolidation of the findings. Figure 1 shows the research design. Corresponding steps are explained in detail in this section.

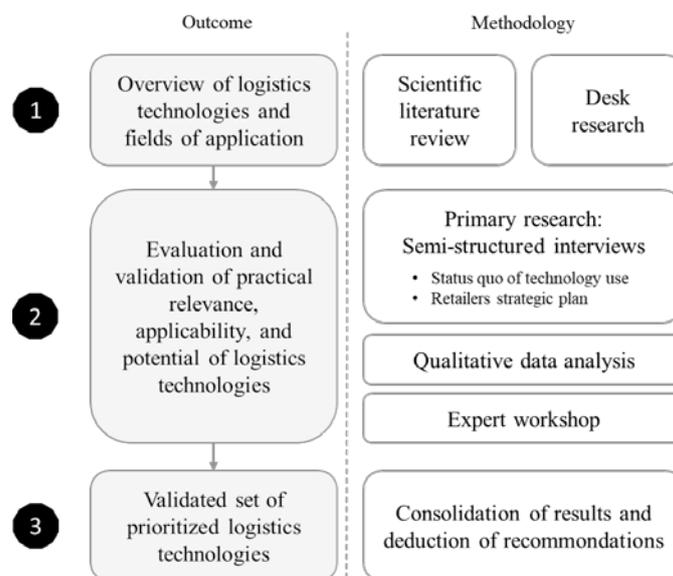


Figure 1 - Research Design

Step 1: Identification of innovative logistics technologies

In step 1 a literature review was conducted, which considered academic as well as applied literature in order to identify prevailing and future innovative technologies and concepts appearing as relevant for retail logistics. The results were supplemented by desk research on technology providers to include most recent developments. The result revealed an extended list of about 50 potential future logistics technologies and concepts, corresponding to the 6-R rule coined by Jünemann. He defines the logistics mission as follows: to provide the right product, at the right time, at the right place, in the right quantity, in the right quality and at the right

costs (Jünemann, 1989). Then, these 50 technologies were assigned to appropriate logistics process steps (e.g. planning, picking, inventory and transport). Thereupon, ten technology categories/trends to each step based on the DHL Trend Report were captured. (see section “Business Perspectives on Retail Logistics Technologies”).

Step 2: Selection and validation of relevant logistics technologies

The goal of step 2 was to synthesize these 50 technologies from the previous step to receive the most relevant logistics technologies and concepts for Austrian retailing from a business perspective. These results were incorporated into our interview guide. Thus, we conducted expert interviews with eight managers from different Austrian retail companies in different retail sectors (e.g. grocery, fashion, electronics, etc.) regarding their current and planned implementation focus of logistics technologies in their stores and warehouses. The interviews were mainly conducted with large companies, which were in the focus of our research as stated in the introduction.

Table 1 shows the interviewed companies including their industry, turnover, and the number of stores in Austria. These criteria are particularly relevant for the implementation of logistics technologies. The indication of for example whether home delivery and/or click-and-collect is offered gives insights on the applied channel strategy – which is relevant for logistics technologies.

Table 1: Interviewed companies

Nr.	Industry	Turnover	Number of stores in Austria	Own distribution center	Home delivery	Click and collect
1	grocery	> 4 Billion € (2018)	> 500	✓	✓	✗
2	grocery	> 400 Million € (18/19)	> 100	✓	✓	✓
3	drugstore	> 11 Billion € (18/19)	> 300	✓	✓	✓
4	electronics	> 1 Billion € (2017)	> 20	✓	✓	✓
5	electronics	> 200 Million € (2020)	> 100	✗	✓	✓
6	fashion & apparel	> 5 Billion € (2018)	> 100	✓	✓	✗
7	fashion & apparel	Not applicable	< 10	✗	✗	✗
8	fashion & apparel	> 200 Million € (18/19)	> 10	✓	✓	✓

The interviews were conducted face to face, following a semi-structured interview guide to give the interviewees the opportunity to add additional information and freely address content without any bias. The research team was thus able to ask additional questions when needed. The Interviews were tape recorded and complemented by handwritten notes. Interview results

were subsequently evaluated by means of a qualitative data analysis. For this purpose, the handwritten notes were summarized and compared with transcripts. To ensure a systematic, rule-driven qualitative data analysis, the remediated transcripts were imported into the software tool MAXQDA, which is specialized in computer based qualitative data and text analysis, to evaluate and interpret the results. Therefore, the transcripts were coded regarding the mention of technologies and application potential. This resulted in a table showing the current status and future strategic directions of novel logistics technologies. To validate the results of the interviews, an expert workshop with interdisciplinary retail technology and retailing experts was conducted. Twelve experts from retailing, shop-fitting, technology provision, and academia were invited to objectively validate primary research findings.

Step 3: Consolidation of results

The captured results were summarized and enabled the development of a logistics technology overview, which gives guidance for logistics technology selection and implementation potential.

Research Context: The Austrian retail landscape

The Austrian retail landscape – to establish the context of the underlying research – is diverse: from small retailers with only one shop to national retail chains (e.g. food and drugstore) to internationally operating retail chains (e.g. fashion). According to a structural analysis conducted by KMU Forschung Austria in 2019, 37,600 Austrian retail stores offer 13.8 million square meters sales area, which accounts for 1.56 square meters sales area per inhabitant. This value is considerably higher, compared to the average of the EU-28, which is 1.18 square meters. The degree of chain store penetration is 40%, which means chain stores operate 40 percent of the shops. (KMU Forschung Austria, 2019) 22 percent of Austrian retailers operate an online shop (base year 2017) while consumers spent a total of EUR 7 billion in domestic and foreign online shops in 2017; 62% of the Austrians shop online at least once a year. This is why the adaption of practices and technologies in brick-and-mortar concepts – especially in logistics – has to be adapted as well in order to keep up with online retailing fulfillment.

In retail, technologies along the entire customer journey often focus on point of sale (POS) technologies or digitization at the POS. This situation also applies to Austria. Even if logistics is more and more seen as the central enabler, it is also difficult to assign where a technology can be considered. That is because POS actions directly trigger logistics processes (e.g. intelligent shelves for out of stock detection automatically initiate the replenishment process; data can also be passed on directly to their suppliers or manufacturers). In the Austrian retail sector, there are many small and medium-sized enterprises. This is special for the underlying research context as it is all the more important for the industry that the larger companies take the first step in retail technology application. Smaller ones benefit from the knowledge gained by their larger competitors.

The next section covers the results of consolidated retail logistics technologies and business perspectives in terms of technology selection and adoption in retail businesses.

Business Perspectives on Retail Logistics Technologies

Today's retailers do have two options regarding the application of logistics technologies: (1) In case the retail business lack in resources or strategic purpose to process logistics technology know-how, they may select LSP partners and use these dedicated service providers to design and operate their logistics processes and apply relevant technologies. (Xing *et al.*, 2011) (2) In any other cases, the business decides upon and uses technological innovations and existing technologies as the foundation of their strategy. This is when retailers are to leverage retail logistics technologies in function towards enhanced process performance and customer value. (Willems *et al.*, 2017). The number of logistics technologies and the potential benefits emerging from the application is one side of the coin – the business perspectives towards adopting them is the other.

Any investment in retail logistics technologies presupposes that a business identifies logistics as a high relevant function realizing that one company can make significant achievements and value-add through excellent logistics. According to the definition of the Council for Logistics Management (Gopal and Cahill, 1992), *logistics is the process of planning, implementing, and controlling the efficient cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related information from point of origin to point of consumption for the purpose of confirming to customer requirements* (Renko and Ficko, 2010). That follows the necessity that logistics activities are aligned and integrated (Waters, 2003; Kotler, 2003) – which also applies for logistics operations in retail environments. A series of brick-and-mortar logistics process steps may be managed separately in specific cases. When it comes to logistics technology adoption, each step requires integration to achieve productivity and justification of applied logistics technology.

Table 2 presents an overview of relevant brick-and-mortar logistics process steps – including detailed-steps – that may require consideration in retail logistics technology applications (Logistik KnowHow, 2016).

Table 2: Logistics process steps

Brick-and-mortar logistics process step	Detailed step
(1) Planning	1.1 Economic order/delivery quantity 1.2 Route planning 1.3 Checking the shipped goods in the DC 1.4 Checking goods availability
(2) Delivery (registration)	2.1 Truck registration 2.2 Time slot allocation and ramp arrival 2.4 Delivery note 2.5 Checking (goods and delivery note)
3) Handling and intralogistics	3.1 Acceptance and goods receipt 3.2 Unloading and interim storage 3.3 Empty containers exchange/transfer 3.4 Storage
(4) Picking	4.1 Stock control 4.2 Generate picking lists

	4.3 Picking goods
(5) (Move) Storage	-
(6) Inventory	6.1 Evaluate stock level (ERP system) 6.2 Determining the actual stock level
(7) Disposal	7.1 Remove materials from POS 7.2 Temporary storage 7.3 Waste disposal
(8) Goods Delivery	8.1 Goods provision 8.2 Packing 8.3 Goods transfer (truck/LSP)
(9) Loading	9.1 Loading of return shipments 9.2 Filling/Provision of pick-up stations
(10) Transport	10.1 Store-logistics tracking 10.2 Home delivery

The table was compiled on the basis of secondary research. The findings were consolidated in a brainstorming session by the team of researchers. Relevant detailed steps were defined for the process steps where suitable. First (i) the above mentioned 50 technologies were assigned to the appropriate process steps and second, (ii) subordinated to a technology category/trend taken from the DHL Trend Report. This enabled to state for each technology category/trend its applicability in a given process step.

The following list shows, in which logistics process steps the technology categories/trends are applicable (the numbers in brackets refer to the logistics process steps in table 2):

- augmented reality (4) (5)
- bionic enhancement (4)
- blockchain (1) (2) (10)
- cross-channel/omni-channel (1) (9) (10)
- digital application (1) (3) (4) (5)
- Internet of Things (1) (6)
- picking technology (1) (3) (4) (5)
- robotics automation (3) (4) (5) (6) (7) (8)
- smart containerization (1) (2) (10)
- storage technology (1) (5)

Augmented reality covers “smart glasses” and “smart lenses”, which provide visual displays of e.g. picking instructions and information on where stock items are located and where they need to be placed. This frees the picker's hands from any scanners etc. and makes picking more efficient and convenient. Although cost savings in storage through efficiency effects can be realized, businesses expect high costs regarding management of personalization.

Bionic enhancement comprises “smart gloves” and “exoskeletons”: Smart gloves use barcode scanners that can be activated with the thumb – successful scanning is confirmed either optically, acoustically or haptically (vibration). Exoskeletons facilitate physical work and

absorb a part of the goods weight. When lifting heavy items or packages, the (felt) weight can be reduced by 40%. In fact, working conditions can be prepared more health-friendly, although the technologies cannot be used for all existing processes or product ranges without costly adjustments.

In course of the **blockchain** trend, “smart contracts” considered as a (logistics) process technology is intended to facilitate business transactions and contract processing as well as provide greater contractual security. Smart contracts can be created, managed and executed via the block chain. The forgery of logistics contracts, shipping documents etc. can be prevented – but there is a lack of successful implementations in logistics practice.

For **cross channel/omni-channel**, retail business may apply “store-to-web / web-to-store” technologies that include click-and-collect, click-and-reserve, store-pick-up and ship-from-store concepts. The aim is to provide an integrated and harmonized channel-strategy that offers consumers diverse multi-channel services and fulfilment (e.g. availability query, reserve ordered shop items, location-based services, etc.). Retail businesses perceive important opportunities but have concerns regarding data privacy, assortments and brick-and-mortar locations as well as infrastructure.

Digital application refers to “logistics software for efficient transport planning”, “goods receipt assistance system” and “intelligent shelf” technologies. While time window management and live tracking systems can be integrated quite easily, customization of these tools is more difficult, as they need to be adapted to fit to individual company processes. That for example includes shelf technology that informs about inventory, items sale and provides support for business decisions. However, transport tracking and pooling requires implementation efforts with partners and digital assistance systems on receipt and shelf-management require investments and wise alignment of processes.

The **internet of things** category contains “transponder technologies (RFID tags and labels)”. As the cost and scope of transponder technologies decreases, businesses will be able to integrate RFID tags and labels even into smaller everyday products to monitor the status of each item in inventory. The concepts can be used for a variety of applications. The goal is to minimize costs, maximize transparency, optimize processes and increase customer satisfaction. Even if transparency and traceability in logistics processes can be realized, calculated cost per day/item (i.e. for low-price retail products) is too expensive in use and tags are usually "lost" after the sale of the goods (as they are no longer returned).

Picking technology covers “pick-by-ink / pick-by-light / pick-by-voice / pick-by-vision”, “roll cage sequencing” and “automatic recording station for article dimensions and weight”. Diverse technical applications for picking allow efficient picking sequences, dynamic routing and enable direct warehouse management system connection as well as real-time stock display. Roll cage sequencing can improve picking and store handling processes. Roll cages in the central/regional warehouse are loaded in the sequence corresponding to the shelf layout. Article recording stations precisely capture morphological data e.g. articles’ volume, weight, quantities, stacking data, EAN, barcodes etc. and ensure efficient capturing of new articles,

corresponding packages or designs as well as precise calculation of warehouse space required. Although cost savings can be realized through more efficient operations, businesses expect high efforts in organizational integration and costs regarding investments and training.

Robotics automation refer to the identified concepts “stacker and crane guidance systems” and “robot technologies” When handling and transferring goods, stackers and cranes can be upgraded with technical equipment e.g. a detection device helps locating the warehouse unit and assigns handling orders from distance. Cycle time reduction in DCs can be achieved by autonomously following handling/picking robots. Once the order picker has finished picking an order, the robot drives autonomously to a defined location while another one is already on its way to the order picker so that the latter can process the next order. Work processes can be carried out more easily, inventories can be better controlled - but many companies are critical of robotics and integrated automation in in-store logistics due to the often lack of technical possibilities, legal uncertainty and the question of cost-effectiveness.

In **smart containerization**, the “intelligent container” and “returnable container” are identified as relevant. Equipped as energy self-sufficient, intelligent containers can locate the exact position due to its technology and can report up to 7,000 times even without power supply. In addition, sensors can also be used to detect when the ambient temperature changes or is in the wrong range. In order to increase handling costs and transport capacity utilization, businesses may use returnable containers with 2D code marking, ready to accommodate cooled packaging for sensitive goods and to be converted into reusable last-mile delivery containers. Localization of the container (i.e. message if wrongly placed/routed) and its stackability offer potential: high acquisition costs and individual adaptation of the container to business’ requirements can be expected.

Storage technology refers to e.g. “cube storage” which include robots, grid, workstations, containers and controllers. The aluminum grid keeps the containers neatly stacked and at the same time provides the robots with rails to drive on. The containers are durable and can accommodate a variety of goods content. Robots move along the top of the grid, are wirelessly connected and recharge when not in use. At the workstations, picking, storage or inventory can be performed. The "controller" keeps an overview of the entire warehouse and controls “traffic”. Aside from the investment and operational decision, businesses may gain from several aspects: fast movers and slow movers are thus automatically sorted, storage space is optimally used, and robots continuously and fully autonomously check their condition.

Evaluation of Retail Logistics Technologies

In this section, we discuss the results of the primary research approach in detail and present the evaluation results regarding logistics technology adoption and potential in store-based retailing in Austria.

The Retailers’ Assessment of Retail Logistics Technologies

Proceeding from the set of retail logistics technologies and business perspectives identified in current literature (see section “Business Perspectives on Retail Logistics Technologies”), the

following logistics technologies and concepts were prioritized in the phase of primary research. The prioritization was based on the results of the interview analyses and revealed the following retail logistics technologies as most relevant: “exoskeletons”, “robot technologies”, “cube storage”, “smart gloves”, “pick-by-ink / pick-by-light / pick-by-voice / pick-by-vision”, “roll cage sequencing”, “transponder technologies”, “automatic recording station for article dimensions and weight”, “stacker and crane guidance systems”, “logistics software for efficient transport planning” and “store-to-web/web-to-store”. Subsequently, figure 2 gives an overview of the results of the expert interviews and shows the current status as well as future strategic directions for the usage of novel logistics technologies and application scenarios from Austrian retailers. It shows the allocation of logistics technologies concepts to "was not mentioned", "is not implemented", "implementation was cancelled", "in planning/implementation", and "is already in use". Descriptions as well as the results from the expert interviews and the workshop for each of them are provided underneath.

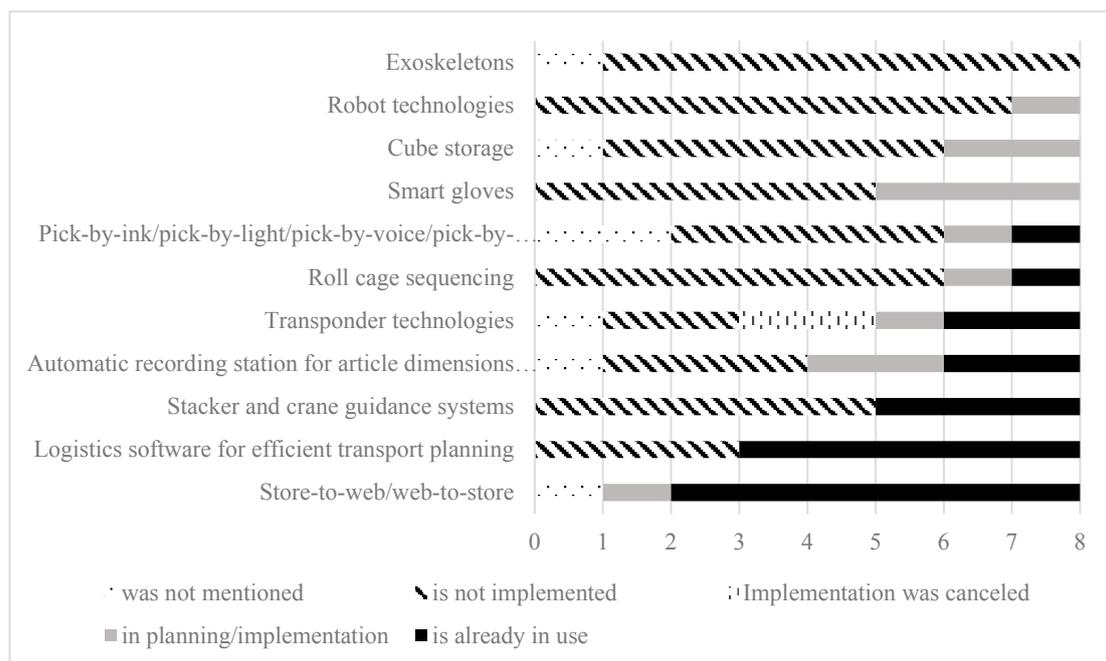


Figure 2: Status quo and future perspectives of logistics technology adoption in Austrian retail stores

An Overview of the Prioritized Technologies

Exoskeletons are helpful for manipulation of large-volume products and therefore depending on the product range. (DHL Trend Research, 2016) However, most of the interviewed companies see no need of implementation of this concept in their industry.

In storage systems (e.g. of distribution centers) **robots** are used for palletizing and picking (Hompe and Schmidt, 2008). Contrasting to that, current literature informs the application of e.g. use of autonomous inventory robots to provide an almost real-time visibility of stock-outs, control of inventory levels, and the elimination of overstocking. Robots show high task accuracy, effective speeds and may imply an almost live monitoring of (warehouse) items.

With their systems participation they enable a business to connect the physical and digital world in decisive manner (Morenza-Cinos *et al.*, 2019). According to the interviewees, the reason why autonomous robots are not yet being used in the Austrian logistics centers is due to the fact that they are too expensive. One executive noted the benefits of a combination of vacuum robots with a put to light system and autonomous industrial trucks, but also draws attention to the high risk, as the technology is still too immature.

Cube storage systems achieve a high storage density and also have many applications, including parking systems, warehouses, and container terminals (Zaerpour *et al.*, 2017). The concept was identified as relevant in the expert workshop as it perfectly supports the intra-logistics processes. However, this system seems not to be relevant for companies in the food and clothing industry or even companies without an own distribution center. A critical necessity of cube storages is the uniform sizes for packaging. Therefore, only less than half of the investigated retailers considered its implementation.

Smart glove technologies have been in the focus of research within logistics processes for several years. Scanning devices are dominant and common in this domain. Several versions exist that are using smart glove technology to support operating personnel during logistics processes – either applying RFID or barcode scanning devices (Scheuermann *et al.*, 2017). Factory environments, logistics and warehouse operations can be improved focusing on different aspects such as personnel's efficiency, ergonomic arrangement of tools or the connected user comfort (Scheuermann *et al.*, 2016). When it comes to Austrian retail smart gloves are considered from both retailers and experts to have great potential. Despite the positive outlook, the interviewed companies have had particular difficulties with the connection to existing systems, which means smart gloves have not yet been fully implemented.

Literature suggests, even when advanced **picking technologies** are applied (Hompe and Schmidt, 2008), picking performance is still greatly dependent on the extent to which pickers are able to use these technologies efficiently. Therefore, it is of interest to investigate the influence of individual pickers and their interaction with the installed picking technology (Vries *et al.*, 2016). In the Austrian retail trade, these methods are rarely used for order picking. Pick by light is mainly used whereas pick by ink is not an option here. Some of the interviewed companies have already tested pick-by-voice, however the technology is not yet mature enough to create real added value for the employees.

Roll cage sequencing is described as the integration of the store layout into packing processes and the loading aids for store delivery. Although literature reveal great benefits for the stores (Kuhn and Sternbeck, 2013), the advantage of time savings achieved by the concept can be compensated by well-trained employees, according to a surveyed expert. They are picking and placing the goods much faster, than otherwise the loading process of roll cages would take. Additionally, the layout in the stores changes regularly in many companies, which makes roll cage sequencing for some of the interviewed companies unpracticable.

Transponder technologies ensure that products and objects in logistics are able to communicate with their environment. Literature shows that transponder technologies support internal logistics processes well (e.g. monitoring, tracking, display availability, support picking, ...) and are also beneficial for the supply chain across companies (Franke and Dangelmaier, 2006). Some of the interviewed retailers are already using transponder technologies to speed up the inventory process. Nevertheless, many companies complain about the high implementation costs. In order to be able to use RFID tags or other transponder technologies efficiently, manufacturers would have to integrate them into the packaging already, as retrofitting is inefficient, error-prone and expensive.

In the field of warehousing, it is important to describe the products as precisely as possible to ensure efficient warehouse utilization. According to experts from the interviews, this information usually comes from manufacturers in an insufficient form, which results in subsequent recording of the articles with regard to weight and dimensions. Some Austrian retailers have already recognized the need for **article recording stations** and use them for data collection. Others are following, whereby companies that sell their products online also see potential in an automatic recording station (KHT, 2020; MM Logistik, 2019).

Stacker and Crane guidance systems are not relevant for companies that do not have their own distribution center. For these normal picking lists are enough. In contrast, Austrian companies active in the electronics, drugstore and grocery trade, this concept is already an important part of their logistics as the proper handling and transferring of retail goods is growing in importance. Guidance systems operate with sensor technology, logic and interfaces – can switch to manually guidance – and aim to optimally use time and space capacities. (ABF, 2020a, 2020b)

Advanced technical logistics infrastructure and tools like **logistics software for efficient transport planning** are widely in use or even in planning or implementation. Specific logistics software providers offer e.g. cloud-based and end-to-end transport solution applicable for involved (retail) network partners. Offers are sensitive to specific technology solutions of modular and highly customizable character (TRANSPOREON, 2020b, 2020a). In Austria the tracking of transports is increasingly important for both, companies with and without distribution center, nevertheless some have fixed tour plans and rely on experience values.

The combination of online store with offline retail opens new possibilities in logistics – with a direct impact on the customer's shopping experience. **Web-to-store/store-to-web** services such as availability queries, article reservations, click-and-collect and consultation appointments are already regarded as standard services (Heinemann, 2017). In order to comply with the increasing information, need of customers, employees in the store can use handhelds to access customer data, check product availability or make article reservations. Results of the expert interviews show that the digital integration of the flow of goods is already in frequent use. The expert workshop also approves this concept to be the most relevant for the future from the business perspective. Although this concept has been often implemented in Austrian retail so far, experts report low consumer usage.

Expert Validation of the Technology Prioritization

The prioritized set of logistics technologies and concepts was the basis for an unbiased expert workshop used to validate the captured findings. As a result of the expert workshop, the retailers' assessment could be complemented by further relevant aspects. In general, experts assess the Austrian retail businesses status quo as "lagging behind" international developments. However, within Europe, Austrian retail businesses keep pace and managers are expected to decide on necessary investments in order not to lose sight of international retail operation standards.

The **web to store / store to web** approach is regarded as highly relevant for the future of the Austrian retail. Many of the interviewed companies already implemented multichannel services and more want to follow. Through scalability of the services and the fact that even small connections between web and store can be implemented promptly, it holds great potential for smaller retail companies, too. Experts agree that the increasing use of smartphones will make this concept even more important. Besides advantages, the difficulty for logistics lies in the high requirements. Wrong data and misinformation can cause internal problems but is also directly visible on the customer side. Thus, it is important to guarantee a seamless implementation. Austrian retailers can apply this concept and the various possibilities to their business to better get revisited by customers.

Darkstore concepts represent retail distribution centers for online orders exclusively dedicated for efficient processing of orders in a time and space saving manner. Dark stores are commonly located close to existing retail stores to realize synergy effects with present structures, logistics, flow of goods and staff without significant investments (Ettouzani *et al.*, 2012). The aspect is closely linked with the above presented category -cross channel/omni-channel- and definitely complies with developments regarding the dramatic increase in online retail and the associated cost and availability implications on the consumers' side.

A general but nevertheless highly relevant topic was additionally mentioned: **last mile**. The issue of last mile is particularly important for every retailer in a cross-channel environment and probably the most costly part in retail logistics (Hübner *et al.*, 2016). Therefore, new approaches are needed and highly welcome. In the majority of the cases, retailers themselves have only limited influence, since the last mile is largely taken over by their logistics service providers or carriers. Retailers themselves may not put the highest effort in the topic and may therefore not push operational investments in last mile technologies at first priority (Vakulenko *et al.*, 2018).

Finally, the term **digital twin** in the context of retail businesses has also been coined relevant. As per definition, a digital twin is "a digital representation of a physical object. It includes the model of the physical object, data from the object, a unique one-to-one correspondence to the object, and the ability to monitor the object" (Gartner, 2017). In terms of retail logistics, a digital twin can be used to track the flow of products through supply chains, for example, or building systems that can extract valuable insights from aggregated data. That may reflect a virtual representation of the store (including store inventory systems, stock-out management etc.) and on a generic level, it may concern future design, operation, and optimization of

logistics infrastructure such as warehouses, distribution centers, and cross-dock facilities (DHL Trend Research, 2019).

Implications

The managerial implications of the underlying research lie in the insights that are provided on (i) which technologies and concepts of retail logistics are expected to become highly relevant for brick-and-mortar retailers in Austria and (ii) what perspectives have businesses regarding the technological relevance of presented issues within the next few years.

Main emphasis of logistics technologies currently still appears to be on functional benefits and cost/time savings. This may over time change the growing role of logistics as a high relevant function and the differentiating potential of relevant logistics technologies in the retail sector. Due to the shortage of (skilled) workers, for example in warehouses, companies need to consider investments in automation and robotic technologies.

In their work from 2017, Inman/Nikolova recapture technologies in their “Brief Overview Of Retail Technology: Past, Present, And Future”, referring to barcode scanning, smart shelves, in-store CRM, etc. and argue the relevance of shopper technology adoption and the dependence on shoppers’ utilization (Inman and Nikolova, 2017). In Drucker’s view (Drucker, 1962) – the economy’s dark continent, which describes the background functions of logistics – the technologies may be seen independently from the ultimate consumer (i.e. shopper). And that is what businesses may consider: The adoption and successful application of retail logistics technologies require integrated flows of information and goods but may remain self-reliant from shoppers’ perceptions.

This is the first study that analyses relevance, applicability and fit of retail logistics technologies and application scenarios in Austrian companies. The underlying applied research approach captures the status-quo in retail logistics practice concerning novel technologies and concepts based on current literature.

The practical relevance of the present research is legitimated by the obvious need of Austrian retail companies for guidance regarding the selection of suitable logistics concepts and technologies. Implications provide an enhanced knowledge of novel retail logistics technologies that have to be taken into account in strategic decision making.

Limitations and future research

The limitations of the research refer to the size of the sample and number of interviewees, the country-specific sample and respective retail business environment. Future research should investigate industry specific issues, best practices of retail logistics application (including investment – effect ratio) and user acceptance – from the viewpoint of operating employees. User acceptance could be evaluated by appropriate technology tests in companies or in laboratory environments.

Conclusion

The practical relevance of the present research refers to (i) the existence of retail logistics technologies and concepts and (ii) the selection of technologies and concepts relevant for Austrian retail businesses. Implications provide an enhanced knowledge of existing and novel logistics technologies and concepts that can be used for strategic decision making.

In many cases it is challenging for retailers to evaluate the adoption of logistics technologies and estimate what it can potentially deliver to their processes (Inman and Nikolova, 2017). As even the implementation of test settings for the evaluation of novel logistics technologies entails high capital expenditure, it is up to the bigger players to identify appropriate technologies due to their financial capabilities. The retailers' strategic focus to invest in innovative technologies is under-researched.

In order to compile a comprehensive view on logistics technologies and concepts considered relevant in retail practice, this research was conducted as part of an applied research project focusing on retail technology advancements and acceptance. In the project, the use of novel technologies and their benefit for brick-and-mortar retailing are analyzed. This concerns in-store customer experience on the one hand and required order processing as well as logistics fulfilment operations on the other hand.

The web to store / store to web approach is regarded as highly relevant for the future of the Austrian retail from both, retailers and experts. It is already implemented from most of the interviewed companies by offering different services using the connection of web and store. Through scalability of the services it also holds great potential for smaller retail companies.

The current COVID-19 crisis underscores the need for more cross-channel solutions and flexible resource allocation in retail networks. This could accelerate the move toward online and digital purchasing offers from businesses. Further, it may trigger more agile and dynamic resourcing from brick-and-mortar stores to distribution centers and end-consumers. It could revolutionize existing business models and may drive new models of collaboration between retailers and their stakeholders to address scarce capabilities and enable the labor pool to move more fluidly in order to meet demand across priority activities.

Acknowledgements

Parts of this work were funded by the Federal State of Upper Austria.

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SCOUTING THE FUTURE OF RETAIL (SCORE) - A CORPORATE FORESIGHT BASED RETAIL RESEARCH METHODOLOGY

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The retail sector is and has always been characterized by a high degree of change – either in terms of customer requirements, market conditions, legal constraints, political interferences or in terms of global mega trends like individualization, servitization, digitalization or urbanization. Especially during the last two decades, the speed of this change has accelerated, leading to e.g. the growing power of online market players or the rise of big platforms controlling whole retail ecosystems. The retail sector has to be prepared for impending transformations and the ability to identify, analyse and contextually react to these changes will be an essential one in the future. However, most retail practitioners seem to rather react to changes than to proact and prepare for them. Also, scientific literature does not provide practicable, implementable and evaluated uncertainty reduction approaches for the retail sector. The current paper addresses this area of tension between practical relevance and research gap. In the form of the SCORE initiative, a corporate foresight based methodology for retail research is developed and presented. Its implementation is done in the course of large-scale Austrian research project (logistikum.RETAIL). The main results of the paper are the SCORE methodology consisting of the four elements of 1) the SCORE community, 2) the software platform Trendwatch, 3) the developed trend monitoring approach, 4) quarterly focus workshops and 5) trend profiles as a basis for driving change in practice.

1. Introduction

The motto "trade is change" is more valid today than ever before. However, it is no longer retail itself that is driving this change, but is rather being driven by it. While sales in online retailing continue to grow steadily, stationary retailers are losing customers to online trading, especially to the major global online platforms such as Amazon. Customers have become more demanding, their expectations of retail have changed and they are increasingly becoming the shaping force of digital change. In addition, digitalization is creating new standards in terms of product availability, price transparency, service and consulting, as well as innovative business models. The majority of stationary retailers perceives digitalization and the simultaneous online and offline offering of their goods as a major challenge. Against this background, it is essential to build up the necessary skills and an appropriate infrastructure within the company, which enables the recognition of weak signals of this change in the business environment, the identification of trends and the derivation of concrete action measures. Nevertheless, in the context of retail and retail management, research methodologies and theoretically grounded approaches to strategic uncertainty reduction, which are also applicable and implementable from practitioners' point of view, are scarce. The concept Strategic or Corporate Foresight offers one way of making the future of retail tangible and depictable in scenarios. It is precisely this challenge that the SCORE initiative of the Network of Excellence Logistics - logistikum.RETAIL is addressing.

Hence, the main research question of the paper is defined as follows: How to develop a practicable methodology for strategic uncertainty reduction in retail and how to establish and ensure (i.e. implement) a community of practitioners and scientific experts with the joint vision of identifying, monitoring, discussing and dealing with the implications of trends in the retail sector. To address this question, the paper presents the SCORE initiative. As an alliance of

business and science, SCORE pursues the goal of identifying and analysing trends and developments in the context of the retail of the future and preparing them as a starting point for internal company use case definition. To this end, SCORE applies central elements of Corporate Foresight and adapts it to the specifics of the retail sector in the form of the developed SCORE methodology for retail. SCORE is part of the Excellence Network Logistics - logistikum.RETAIL, which pursues the vision of establishing an internationally leading innovation and competence centre for the retail sector and the strengthening the innovation chain of education, business and research. Against this background and based on the community of Logistikum.RETAIL, the developed SCORE methodology and initiative is critically discussed and based on the application results and the practitioner feedback gained so far.

2. Research Background

2.1. Uncertainties in the Retail Sector

The retail business represents an ever-evolving landscape. It has become progressively wider and global in scope. Retailers find themselves in a mature environment, in which clients' expectations are continuously increasing and evolving (Grewal et al., 2009). Customer satisfaction derived from their subjective fulfilment of their expectations will determine their continued store choice (Paul et al., 2016). Companies in the retail sector also face new challenges with more competition due to the accelerated pace of technological change, more sophisticated management practices, and industry consolidation (Sirohi et al., 1998). Innovation and the application of technology are core elements to develop more satisfying shopping experiences; both enable ambiances that strongly impact on customer persuasion (Sharma, Stafford, 2000). The retail sector is also widely affected by the emergence of new trends. While it is widely common to refer to trends as strong determinants of change, the problem is knowing how to identify which to act on. Forward looking analysis can assist individuals, business sector, institutions and the policy sphere to better prepare for the future and look for potential opportunities and threats (Gallouj et al., 2015).

2.2. Corporate Foresight

From a theoretical perspective, the paper builds on the approach of Corporate Foresight (CF) (Voros, 2003, Rohrbeck, 2011). CF has its roots in the field of strategic early warning and places a special emphasis on applied future research in companies. Initial approaches in this area were presented as early as the 1970s, specifically combining elements of corporate environment monitoring and future forecasting with the aim of reducing uncertainty (Peter, Jarratt 2013). Various definitions of the term can be found in the scientific literature. In this paper, corporate foresight is defined as an approach to identify and assess weak signals from the internal and external corporate environment at an early stage. CF enables the identification of trends and strategic issues and highlights their interrelationships. By supporting the interpretation of their consequences for the company, CF serves as a basis for corporate and innovation strategy planning and can therefore be regarded as part of strategic innovation management (Brandtner, 2018a; Brandtner et al., 2014).

3. The SCORE Methodology

Various foresight frameworks and approaches can be found in the literature, two of the most recognized CF frameworks are represented in the form of the "Successful Foresight Process" by Horton (Horton 1999) and the "Generic Foresight Process Framework" by Voros (Voros 2003), which is based on it. Based on these two approaches, a three-step methodology is defined

for SCORE: Signals are systematically collected ("inputs"), analysed and bundled into trends ("analysis") and processed in a practice-oriented form ("output") (Brandtner, 2018b). This provided the structure for developing and positioning the element of SCORE in a theory-based way, as depicted in the following overview:

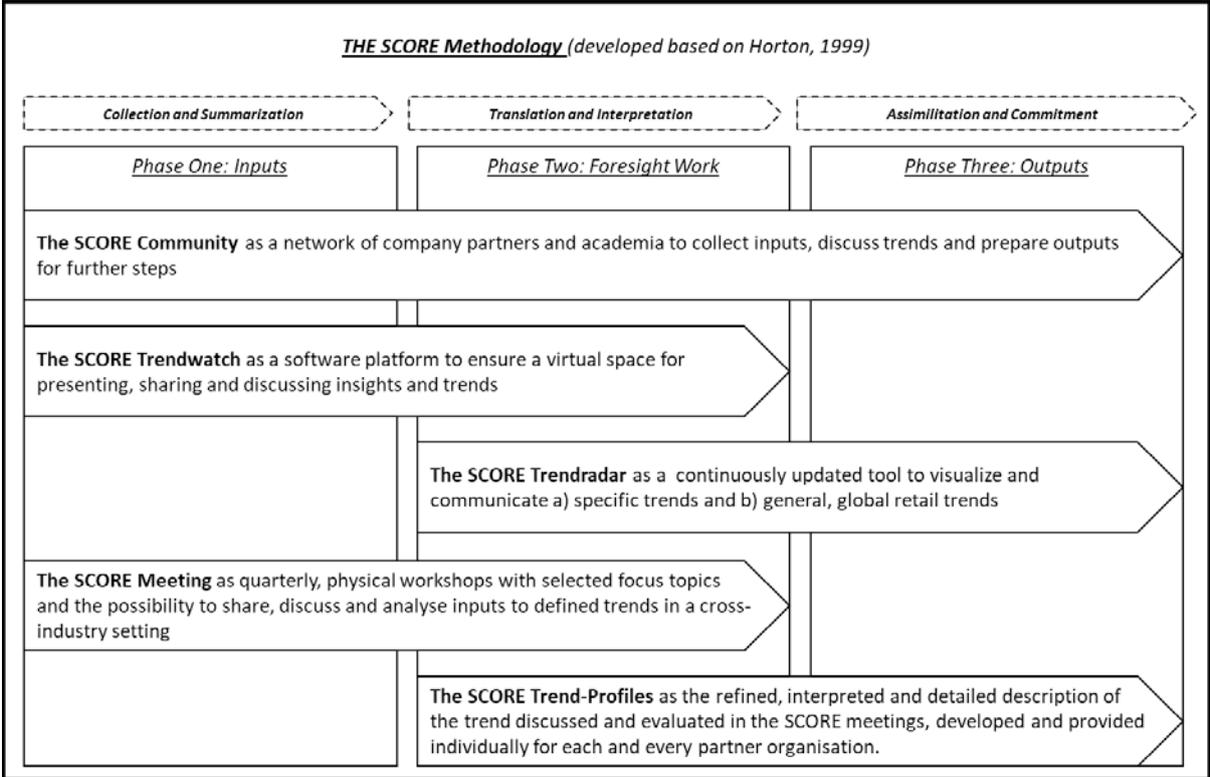


Figure 1: The SCORE Methodology

As depicted in figure 1, SCORE consists of several main parts:

- 1) the established **SCORE community**, which aims to include company partners from various industries and scientific as well as expert partners.
- 2) the software platform ("**Trendwatch**") as the tool to ensure a space of presenting, sharing and discussing insights and trends in addition to the physical network meetings (cf. figure 2):

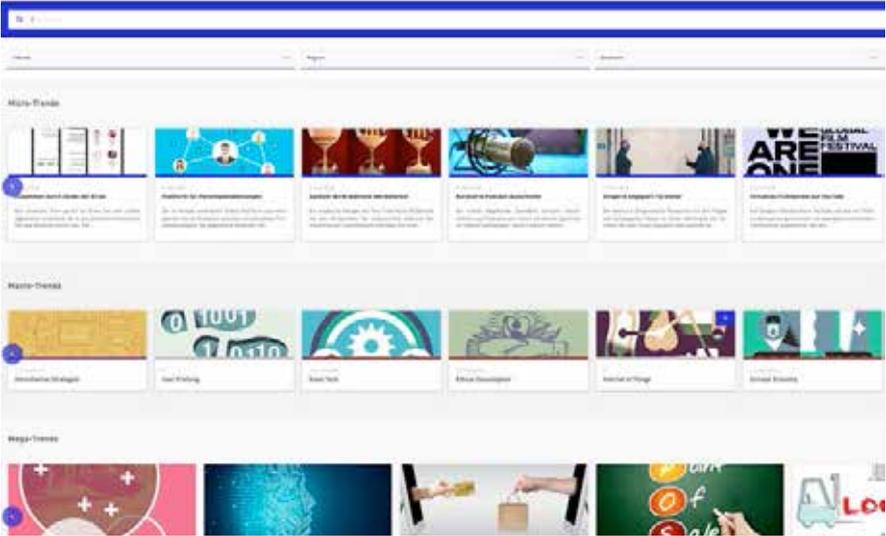


Figure 2: Overview of the SCORE Trendplatform

- 3) continuously maintained **trend radars** for specific focus topics and a general global retail trend radar as presentable and sharable results (cf. figure 3):

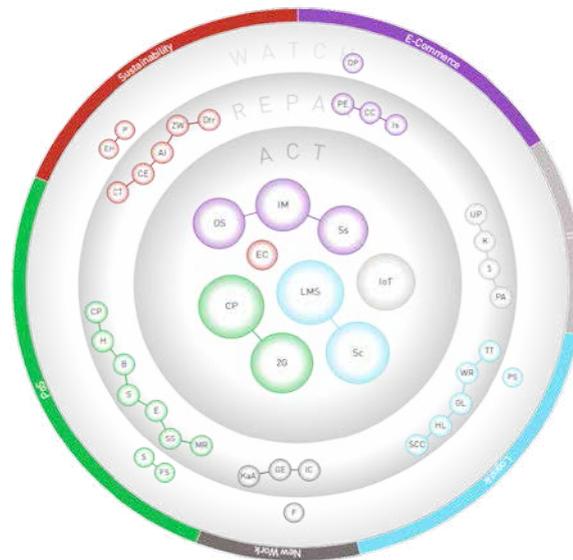


Figure 3: Exemplary SCORE Trendradar

- 4) quarterly workshops (“**SCORE Meetings**”) with changing topics defined by the community. The structure of the agenda starts with a review of the previous workshop, continues with the elaboration and preparation of the selected topic - theoretical principles, analysis/figures/data/facts, innovative approaches and best practice, and ends with the discussion of the questions in the community.
- 5) a set of detailed **trend profiles** which are the results of these topic related workshops and discussions. They include a summary of the presentation, the incorporation of the workshop results and the definition of the next steps including recommendations.

4. Findings and Conclusion

The SCORE community is constantly expanding and growing. Currently, the community consists of partners from shop fitting industry, material flow and warehouse logistics solution planner, one of the largest group of companies in the global sports trade, an Austrian doors & windows manufacturer and major food retail chain, a electronics retailer and an international furnishing group. Four workshops have taken place so far, the first on the topic of "Robo Retail - Robotics in the Retail of the Future", the second on "Last Mile Delivery Processes in the Retail of the Future", the third on "AI Applications in Logistics" and the fourth on "Transparency and visibility in the retail value network".

From a scientific perspective, the SCORE initiative deals with the early phases of the strategy and innovation process - the so-called "Front End of Innovation" - which are central to the overall success of a company (Koen et al., 2001). The goal in this phase of the innovation process is to identify those environmental developments and trends that represent either an opportunity or a threat from the company's point of view. The earlier the right directions for the downstream idea generation and solution development process are identified and taken, the greater the probability of sustainable, future-oriented innovations (Markham, 2013). Despite an increased treatment of this topic in the scientific community, there is still a considerable need

for research, especially in the retail sector, which is characterized by increasing change (Brandtner, 2018b; Wowak et al. 2016). The design and implementation of a business and science-driven initiative such as SCORE can be regarded to as an exemplary approach to strategic early warning and a possible best practice example of how to establish community-based strategic foresight abilities in retail. The results of the paper can be used as a basis for the establishment of similar formats in other industries or as a starting point for future research projects with a focus on e.g. specific companies or the public sector.

From the perspective of business practice, the SCORE initiative contributes to reducing strategic uncertainty in the business environment and provides a sound knowledge base for the definition of proactive measures. The trend profiles and the discussion in the cross-industry setting of the SCORE community support the contextualized analysis and evaluation of, for example, future technology trends or general megatrends. The same applies to implementation and establishment related knowledge: the SCORE Community promotes the cross-industry exchange of best practices and key learnings and supports the development of sustainable and proven knowledge. The developed framework and the SCORE approach is presented in a understandable and practice oriented way and hence contributes to the growth of future orientation and the required organisational understanding in practice. The procedure of first presenting the chosen topic and then having a company-specific discussion in the community is met with collective positive feedback from the partner companies.

The main limitation of the current paper is the limited focus of the evaluation, which only took place in the context of the Austrian network *logistikum.RETAIL*. Further and additional settings are needed to gain deeper insights into the practical applicability of the SCORE approach in other countries than Austria and with other companies and partners than the one who participated in *logistikum.RETAIL*. Also, the SCORE initiative and the developed methodology is quite new (it started in 2019). Hence, the learnings gained so far are limited to this time duration. Regarding future work, the results of the SCORE initiative should also be evaluated ex-post in the future. The accuracy of the identified trends, their timelines and their estimated impact could be compared with the actual developments and trends that took place.

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Keywords*

Corporate Foresight, Retail Management, Strategic Uncertainty Reduction, Retail Trends, Retail Research



“A MODEL OF USAGE INTENTION FOR AR-BASED SELF-SERVICE TECHNOLOGIES”

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Two important trends motivate the present study. Augmented reality and self-service technologies are becoming popular in the retail sector. These two technologies have triggered increasing, but fragmented, academic research. Therefore, integrative models are needed. Accordingly, this paper proposes a model that identifies factors that, in the retail context, influence consumers' acceptance of, and usage intentions towards, augmented reality self-service technologies: the augmented reality in retail model (ARiR model). The ARiR model extends the original technology acceptance model to augmented reality and introduces five new constructs: need for personal interaction, aesthetics, navigation, self-efficacy, and technology readiness. To capture potential differences based on levels of internet use and economic development, the empirical study was conducted in a developing country, Nicaragua, and in a developed country, the USA. The model was tested through partial least squares structural equation modeling. The study findings suggested that perceived usefulness, attitude, and technology readiness are the main factors that influence usage intention for AR-based SSTs; and the other antecedent constructs were proven to be significant predictors, except for the need for personal interaction. Cross-cultural comparisons indicate that both countries have similar attitudes and usage intentions towards AR-based SSTs. This paper provides insights into the perceived value, and motives, for customers to use and accept AR-based SSTs; these insights can serve as guidelines for future applications. Furthermore, it validates the proposed ARiR model in technology acceptance of augmented reality in retailing, in both developed and developing countries.

“FIELD OBSERVATIONS ON THE STRATEGIC PLACEMENT OF RETAIL ROBOTS”

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The purpose of this paper is to empirically verify the optimal strategic placement of humanoid service robots (HSRs) by inspecting subsequent performance metrics, along the point-of-sale (POS) conversion funnel. The study was conducted by means of unobtrusive observations in a Belgian chocolate store. In total, 28 hours of video observation material was collected and analyzed, evenly spread over two conditions: (1) an HSR placed outside and (2) an HSR inside the store. All passers-by and their interactions with the robot have been systematically recorded and compared. The study found that there is no universal optimal placement of robots, but rather that the placement should depend on the main purpose the retailer has for its implementation (cf. POS Conversion Funnel). An HSR placed outside the store is advisable to attract attention, while an HSR placed inside the store is more lucrative in generating sales conversions. This study was not able to verify the internal emotional/cognitive state of the passers-by, as the method comprised unobtrusive camera observations. A more longitudinal research design is necessary to exclude a potential bias due to the novelty effect. While research on robots in retail services is booming, this study is practically the first to provide insights for retailers on how to decide on the placement of robots in/outside the store, depending on the particular goals they are aiming to reach at the point-of-purchase.



“THE ROLE OF CUSTOMER INSPIRATION AND CUSTOMER CONFUSION IN ONLINE ASSORTMENT ORGANIZATION”

Laura Bertrandie, Stephan Zielke (University of Wuppertal)

Offline retailers can organize their assortments per substitutes (within one category i.e. different shirts) or per complements (across categories i.e. complete outfits). Recently, complementary organization has been adapted to online sales channels. The question remains whether effects of complementary organization are transferable to the online environment. This paper will focus on the counteracting forces of customer inspiration and customer confusion evoked by complementary assortment organization. In our study, we examine the influence of substitutive vs. complementary online assortment organization on cognitive and affective customer confusion, customer inspiration and their net impact on assortment perception. In an experiment with three scenarios, we manipulate an online shop including substitutive or complementary organization (with or without display of the total set price). The results show that assortment organization has an influence on assortment perception via customer inspiration and customer confusion. For customer confusion, we find a double mediation effect: complementary organization leads to more cognitive confusion than substitutive organization and assortment perception is only influenced negatively if cognitive confusion leads to a negative evaluation of the situation (i.e. affective confusion). Complementary organization also leads to more customer inspiration, which mediates assortment perception positively. However, this effect is mitigated when the total price of the complementary set is displayed. The net impact of complementary assortment organization on assortment perception is positive due to the stronger effect of inspiration. Online and multi-channel retailers should employ complementary organization additionally and use design elements (e.g. pictures) to tap into the benefits of customer inspiration.

INVESTIGATING FACTORS THAT INFLUENCE LIVE- STREAMING SALES BEHAVIOR: TRUST TRANSFER AND PARA-SOCIAL INTERACTION PERSPECTIVE

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Keywords

Live streaming, online influencers, trust transfer, para-social interaction, panel data

Introduction

This study develops a conceptual model that explores the antecedents of sales performance in a live streaming context. Specifically, the study explores how consumer trust transfers from influencer to product via para-social interaction in live streaming shopping. Para-social interaction is proposed as a mediator between the antecedents (influencer popularity and influencer expertise) and behavioral loyalty (product sales). Live streaming has become a popular tactic for online retailers to show case and sell products. In 2017, the global live streaming market was valued at \$32 billion and is expected to reach \$60 billion by 2026 (Industry Research, 2019). Live streaming platforms have contributed to the rapidly growing demand of online influencers who are considered by their large number of followers as trusted opinion leaders (Lou and Yuan, 2019). Brands and businesses are also interested in finding ways to leverage "popular figures" as brand ambassadors on live streaming campaigns. In the e-retailing

environment, trust transfer and para-social interactions exist because of the characteristics of online shopping participants and live streaming (Liu et al., 2018; Boerman, 2020). Research suggests that trust transfer and para-social interactions influence in an online context (Teoh et al., 2008). However, there is a significant deficiency in our understanding of how trust and para-social interaction between the influencer and the consumer can stimulate purchases in a live-streaming context. Our study is the first to examine the impact of live streaming trust among consumers, influencers and brands. Also, the study is the first to investigate para-social interaction between an influencer and fans using real-time data. Our panel dataset for empirical validation for our hypotheses comes from Kwai, the largest users and the earliest picture and video sharing social app in China. The data is collected ranging from 1st October 2019 to 31st January 2020. Consequently, our dataset mainly consists of three parts: (1) product attributes (i.e., sales, categories) of each live streaming, (2) users interaction information (i.e., likes viewers, and interactions), (3) influencers information (i.e., followers, gender, onstellation and number of live streaming activities).

Purpose

This study investigates influencer marketing in a live streaming context. Specifically, we explore factors relating to perceived influencer expertise and influencer popularity as antecedents to sales performance. The aim is to investigate this relatively new sales method, i.e., social commerce that retailers are increasingly engaging in to entice sales. We use panel data to explore and address this phenomenon. Trust transfer (Stewart, 2003) and para-social interaction (Horton and Richard Wohl, 1956) theories underpin the conceptual model. Live streaming has altered traditional social commerce (Sun et al., 2019). Live streaming is an emerging video content creation platform, which facilitates engaging and timely interaction amongst users (Zhao et al., 2019). Live streaming literature highlights several potential factors that may influence live streaming effectiveness, which typically includes streamers personalities, the extent of expertise, social interactivity (Zhao et al., 2019; Leung, Kim and Tse, 2020; Park and Lin, 2020) and source credibility (Todd and Melancon, 2018). Research shows that the effectiveness of live streaming aligns with purchase intention (Zhang et al., 2019), engagement (Sun et al., 2019), intention for continuous viewing of the event (Hu, Zhang and Wang, 2017), investment in streamers and perceived entertainment value of streamers (Todd and Melancon, 2018). In the context of live streaming, trust is a building block for interpersonal interactions (Hollebeek & Macky, 2019). Trust helps to reduce social complexity and uncertainty involved in the social commercial environment and trust is viewed to be a significant factor in forming and maintaining long-term customer relationships (Sharma, Menard and Mutchler, 2019). It is therefore reasonable to assert that trust can be used to foster brand attitude, engagement, eWOM, nurture sales, and contribute to customer loyalty development (Hollebeek & Macky, 2019; Shin, 2019; Sarkar et al., 2020). Bennett and Rundle-Thiele (2002) examined that behavioral loyalty is the result of attitudinal loyalty and these results can be market share, sales or others. Based on trust transfer theory (Stewart, 2003), a consumer's trust in an established trusted entity (e.g., online influencers) can transfer to a related entity

(e.g., brands or product). Drawing from this conceptualization of Trust Transfer theory, this study proposes influencers as the source entity and the recommended brand or product is the target entity. That said, we propose consumers' trust in influencers will have a significant positive impact on trust perceptions in the brand that is endorsed by the influencer. Research shows endorsement creates a link between the brand and the influencers' reputation (Singh et al., 2020). However, influencers in a live streaming session does not automatically guarantee a purchase. Previous research has demonstrated that the effectiveness of an endorsed advertisement is inseparably tied to the degree in which the image (Wong, Fock and Ho, 2020), personality, popularity (Zhao et al., 2019) or expertise (Hughes, Swaminathan and Brooks, 2019) of the endorser fits the advertised product (Breves et al., 2019). Therefore, we propose that trust transfer together with influencer characteristics (i.e. popularity and expertise) would be the mechanism underlying the effectiveness of online influencers in promoting advertising effectiveness in live streaming. On the other hand, para-social relationships are one-sided imaginary intimacy with media characters (i.e., celebrities, influencers) among media audience (Rubin and Step, 2000). Para-social relationships become an appropriate concept for understanding a virtual connection between online influencers and followers (Lee and Watkins, 2016). Although existing research on para-social relationships has been focused mainly on social media (such as blogs, YouTube and Instagram), there is an empirical deficiency on our understanding of the significance of para-social interaction, specifically in relation to its' operationalization and measurement. This study addresses this gap and operationalizes para-social interaction in a live streaming influencer context. Regarding influencers in the live streaming context, commercial person brand (i.e., online influencers, digital opinion leaders) as type of brand entity, which appears to have high potential as brand promoters, is gaining prominence (Leung, Kim and Tse, 2020). Therefore, analyzing distinct characteristics (such as popularity and expertise) of digital person brand creates novel insight for live streaming marketing. This study also contributes to existing social influencer marketing and live streaming literature with panel data sets.

Model proposal

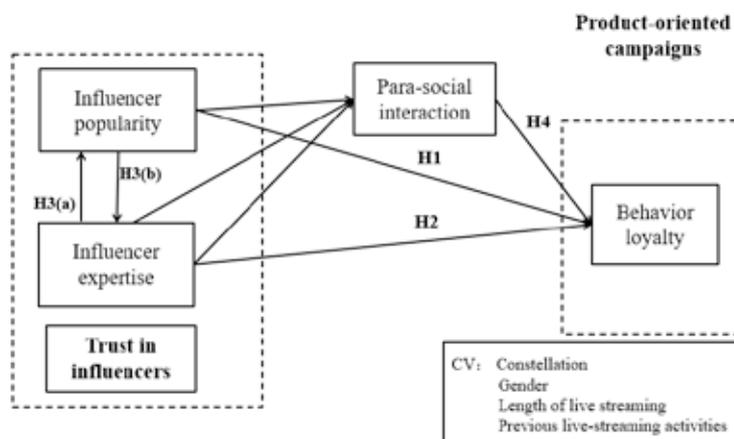


Fig1. Research Model

H1: Influencer popularity has a significant influence on behavioural loyalty.

H2: Influencer expertise
has a significant influence on behavioural loyalty.

H3: There is significant positive link between influencer popularity and influencer expertise.

H3(a): The higher influencer expertise, the greater influencer popularity.

H3(b): The greater influencer popularity, the higher influencer expertise.

H4: Para-social interaction has a significant positive influence on consumers behavior loyalty.

H5: Para-social interaction is a significant mediator between the antecedents and behavioural loyalty.

H5(a): Para-social interaction positively mediates the impact of influencer popularity on consumers behavioural loyalty.

H5(b): Para-social interaction positively mediates the impact of influencer expertise on consumers behavioural loyalty.

H5(c): Para-social interaction positively mediates the impact of influencer popularity and influencer expertise on consumers behavioural loyalty.

Methodology

Research context

Our panel dataset for empirical validation for our hypotheses comes from Kwai (or Kuaishou in Chinese pinyin), the largest users and an earliest picture and video sharing social app in China which is similar to YouTube Live. Kwai has always been the one of the leading operators of live streaming campaigns, which enable sellers to launch live streaming activities or streamers perform talent living show (i.e. singing, dancing, or playing computer games). Consistent with our study object, we contract selling activities from live streaming campaigns. There are two reasons for our decision to choose Kwai to depict our story. First, Kwai is one of the earliest live streaming platforms enabling users to form stable belongings to the app. Second, live streaming influencers comes from all economic level cities in China.

Panels are employed widely in market research to study consumer purchase patterns, test new products, and evaluate promotional campaigns (Lohse, G., Bellman, S., & Johnson, 2000). Panel data set contains observations on multiple phenomena observed over multiple time periods, which is two-dimensional: time series and cross-sectional (Hsiao, 2014). Longitudinal data allows a researcher to analyze a number of important economic questions that cannot be addressed using cross-sectional or time-series data sets (Hsiao, 2014). Panel data are repeated observations on the same cross section, typically of individuals or firms in microeconomics applications, observed for several time periods. The advantages of panel data are increased precision in estimation, the possibility of consistent estimation of the fixed effects model, which allows for unobserved individual heterogeneity that may be correlated with regressors and the possibility of learning more about the dynamics of individual behavior than is possible from a single cross section (Cameron, A. C., & Trivedi, 2005). There are three key types of panel data models. Pooled OLS model (Ordinary Least Square) model consider a

dataset as cross-sectional data and omits that the data has time and individual dimension. Fixed effects models explore data further by taking into consideration the differences between individual entities. A random effects model takes into account these individual variations as well as time dependent variations. The model eliminates biases from variables that are unobserved and change over time (Hsiao, 2014).

Data Collection

The data consist of 21,517 product-oriented campaigns by 729 online influencers, collected ranging from 1st October to 2019 to 31st January 2020, lasting 16 weeks. Consistent with Kwai published product in a range of 14 categories, we detailed them into 31 groups to explore, which influencers are more likely to endorse a product (Lin, 2014). We tracked the product and influencers pages of the live streaming campaigns endorsed product, obtaining sales data, number of fans/likes/viewers/interactions, online influencers expertise area, and product categories recommended by online influencers during live streaming and average broadcasting time length on the unit of each daily live streaming product-oriented activity by one influencer. Consequently, our dataset mainly consists of three parts: (1) product attribute (i.e., sales, categories) of each live streaming, (2) users interaction information (i.e., likes, views and interactions), (3) influencer information (i.e., followers, gender, constellation and number of previous live streaming activities).

Empirical model

As our dataset includes daily live streaming activities, we operationalized variables at the daily activity level. Specifically, let subscript i denote each individual live streaming, and subscript t denote each time period (daily). The dependent variable is product i 's daily sales quantity, $Sales_{it}$, measured as the total number of product i sold in day t . Next, our independent variables include the number of followers, the number of likes, the number of interactions, the number of viewers and the extent of expertise. Regarding the measurement of expertise, it is a displayed behavior within a specialized domain and/or related domain in the form of consistently demonstrated actions of an individual that are both optimally efficient in their execution and effective in their results (McGuire, 2011, p241). Thus, expertise can be considered as the consistency connecting individual expertise area and actual behavior. In our study, online influencers recommend different areas of products in live streaming activities, while almost influencers have his/her expertised product areas in the dataset. Based on McGuire (2011) to operationalize expertise, we match recommended product areas (actual behavior) and expertised product areas (expertise area). Specifically, for each live streaming campaign by influencers, we calculate the number of expertised product areas in recommended areas and divide the number of expertised product areas in recommended areas by the number of recommended areas.

$$(1) \text{Expertise}_{it} = \frac{N_{\text{expertised/recom}_{it}}}{N_{\text{recom}_{it}}}$$

We use this Expertise formation (1) to measure expertise, in which $N_{\text{expertised/recom}_{it}}$ stands for the number of expertised product areas in recommended areas, and $N_{\text{recom}_{it}}$ means the number of recommended areas (product i sold in day t) ranging from 0 to 1. Since expertised product areas by some influencers

in the system are not accessible, we revalue expertise ranging from 0 to 3, in which 0 stands for no expertise areas, 1 is Expertise_{it}=0, 2 is Expertise_{it}=0 to 1 and 3 is Expertise_{it}=1.

Finally, our control variables are gathered from those identified in our literature review and from the available information in our dataset. Specifically, we include control variables at influencers' personal attributes and live streaming features levels: (1) influencer gender (the number of female influencers is 327, while the male is 402), constellation, (2) the number of works and length of live streaming (De Vries, Gensler and Leeftang, 2012). 33,777 live-streaming activities were not for product selling, which were removed due to mismatched data collection. In total, 21,517 live-streaming activities by 729 online influencers were qualified. Table 1 stands for constructs; Table 2 presents the descriptive statistics.

We model the influence of influencer characteristics (popularity and expertise) and para-social interaction on consumer behavioural loyalty testing of the hypotheses with the means of Ordinary Least Squares Regression (OSL). The panel-level linear model is specific in Eq. (2):

$$(2) \text{Log}(\text{Sales}_{it}) = \partial_1 \text{Expertise}_{it} + \partial_2 \text{LogFollowers}_{it} + \partial_3 \text{LogLikes}_{it} + \partial_4 \text{LogViewers}_{it} + \partial_5 \text{LogInteractions}_{it} + \partial_6 \text{Expertise}_{it} * \text{LogFollowers}_{it} + \partial_7 \text{Expertise}_{it} * \text{LogLikes}_{it} + \partial_8 \text{Constellation}_{it} + \partial_9 \text{Gender}_{it} + \partial_{10} \text{LogNumworks}_{it} + \partial_{11} \text{LogLength}_{it} + \alpha_i + \epsilon_{it}$$

where $i=1, \dots, N$ ($=729$) influencers and $t=1, \dots, T$ ($=123$ days) time periods, spanning from October 2019 to January 2020 and producing 21,517 observations; Expertise_{it} denotes influencer i at time period t ; LogFollowers_{it}, LogLikes_{it}, LogViewers_{it}, and LogInteractions_{it} refer to influencer i 's logarithm number of followers, likes, viewers and interactions at time period t , respectively; α_i is the unknown intercept (i.e., the fixed-effects); ϵ_{it} is the random error.

Table 1 Constructs and Measures

Construct	Dimension	Notation	Definition	Operationalization
Behavioral loyalty		Sales	Sales performance of per live streaming campaigns	Count: the total number of products sold for the deals per live streaming campaigns by influencers
	Trust in influencer	Influencer popularity	Followers	Number of followers each live streaming campaign by one influencer
Likes			Number of likes per live streaming campaign received	Count; the total number of likes per campaign by one influencer
	Influencer expertise	Expertise	Is indicative of the extent of sponsored influencers as source of domain specific knowledge,	

		experience, and problem solving	Quantitative; $\frac{N \times \text{expertised/recomit}}{N \times \text{recomit}}$ Range:0-3
Para-social interaction	Viewers	Number of viewers present per live streaming campaign	Count; the average number of viewers per live streaming campaign
	Interactions	Represents influencers streaming interaction presence and is also an indicator of live streaming campaigns strength	Count; the total number of interactions by viewers per live streaming campaign
Control characteristics	Gender	Influencers' gender	Binary scale(1=Male;0=Female)
	Constellation	Influencers' constellation	Categorical:1-12
	Number of works	Number of influencers previous live streaming campaigns and is also an indicator of expertise	Count: total number of live streaming campaigns by influencers
	Length of live streaming	From the moment live streaming campaigns begin to end	Count: duration of each live streaming campaigns (in hours)

**Notes: The unit of analysis is each daily live streaming campaign by influencers.*

Table2 Descriptive Statistics

Variable	N	Mean	SD	Min	Max
No. of Sales	21,517	386343	5958401	0	999986.30
No. of Followers	21,517	4804532	4109546	401753	49159000
No. of Likes	21,517	157597.7	270785.9	4	1000000
Expertise	21,517	1.53564	1.020483	0	3
No. of Interactions	21,517	3791.086	7988.344	0	171838
No. of Viewers	21,517	65566.74	35041.61	29	100000

Table3 Variable Correlation

Variable	No.of Sales	No.of Followers	No.of Likes	Expertise	No. of Interactions	No. of Viewers
No. of Sales	1.0000					
No. of Followers	0.1549	1.0000				

Followers						
No. of Likes	0.1037	0.4319	1.0000			
Expertise	0.0049	-0.0395	-0.0547	1.0000		
No. of	0.1148	0.3873	0.6717	-0.0448	1.0000	
Interactions						
No. of Viewers	0.0368	0.3100	0.4516	-0.0337	0.3518	1.0000

Model analysis and results

We used the xtreg function in Stata 15 to yield descriptive and inferential statistics and to function panel regressions to test the hypothesized relationships(Cameron, C., & Trivedi, 2010). Table 3 reports the correlation matrix.

Fixed-effect model

We used a fixed-effects (FE) model to analyze panel data consisting of 16 weekly observations for 729 influencers on live streaming. A FE model presumes that individual heterogeneity between campaigns is tackled by the unknown intercept and therefore provides researchers with the ability to control for all time-invariant unobserved variables(Allison, 2009).

We examined the Hausman test (Hausman, 1978; Wooldridge, 2010) to decide whether a FE or RE (random effects) model would be the suitable one. Our results show that the p-value of the Hausman test was 0.000. At a 5% significance level, the null hypothesis that differences in coefficients are not systematic was rejected, inferring that a fixed-effects model is preferable. We depict the basic model as Equation (2).

The effects of influencer characteristics on sales performance are presented inTable 4. The results from the fix-effects model show that influencer popularity(number of followers and likes) has significantly positive effects on sales performance (Coef.= 2.947,p= 0.000; Coef.= 0.208,p= 0.000),in support of H1 , and expertise has significantly negative effect on sales performance (Coef.= 2.947,p= 0.000; Coef.= -0.162,p= 0.000),which is not matched with H2 and this unexpected finding and a plausible explanation behind this effect will be presented in the discussion section below. Regarding the effect of para-social interaction (the number of interactions and viewers) on sales performance, the number of interactions and viewers have significantly positive effects on sales performance (Coef.= 0.210,p= 0.000; Coef.= 0.206,p= 0.000),in support of H4. Further investigation of influencer characteristics effect reveals that influencer expertise has significantly positive effects on influencer popularity (the number of followers and likes) (Coef.= 0.003,p= 0.000; Coef.= 0.020,p= 0.000), in support of H3.

Table4 Effects of influencer characteristics on sales

	H1	H2	H4	H3(a)		H3(b)
Variables	Sales	Sales	Sales	Followers	Likes	Expertise
Followers	2.947***					0.4482***
	(.3617)					(.0831)
Likes	0.208***					0.0098*

	(.0222)					(.0051)
Expertise		-0.1625***		0.00314***	0.0197**	
		(.0302)		(.00058)	(.0094)	
Interactions			0.2101***			
			(.0238)			
Viewers			0.2062***			
			(.0306)			
Constant	-	-7.493***	-8.769***	14.878***	3.051***	-4.677***
	52.324***	(.7548)	(.7782)	(.0144)	(.235)	(1.249)
	(5.434)					
Observations	21,517	21,517	21,517	21,517	21,517	21,517
Within R²	0.1334	0.1280	0.1328	0.0405	0.3112	0.0079
Between R²	0.0630	0.0120	0.0284	0.0189	0.0210	0.0002
Overall R²	0.0439	0.0216	0.0354	0.0200	0.0570	0.0010

* p<0.1, ** p<0.05, *** p<0.01

Notes: Standard errors are in parentheses

Mediation Effects Test

In this section, we first propose a brief outline of the classic mediation analysis, followed by 3-stage regression model to examine the mediation effect (Muller, Judd and Yzerbyt, 2005).

Mediating variables (M) lie in the causal array between an independent variable (X) and a dependent variable (Y). Mediation analysis involves estimating the effects of the mediator (M) in a relationship chain in which X is presumed to have a direct effect on M, which in turn causes changes in Y (Baron and Kenny, 1986). Figure 2 presents a programmatic mediation model, in which we employ the common notations from the literature (MacKinnon, Fairchild and Fritz, 2007).

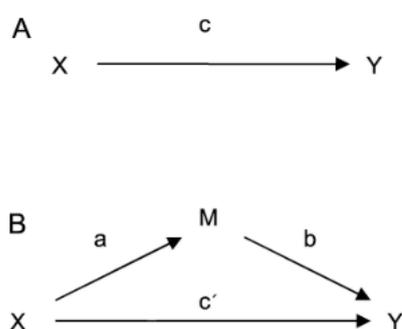


Fig.2 The mediation model requirements based on Baron and Kenny's (1986) method. A: The direct effect. B: The mediation model.

We tested three conditions that should be met to verify the mediating effect:

1. Influencer characteristics (popularity and expertise) are significantly related to sales performance.
2. Influencer characteristics (popularity and expertise) are significantly related to para-

social interaction.

3. Influencer characteristics (popularity and expertise) and para-social interaction are significantly related to sales performance.

For the mediation effect of influencer characteristics (popularity and expertise), the first criterion is satisfied. Influencer characteristics (popularity and expertise) are significantly related to firm performance ($p_{\text{popularity}} < .001$; $p_{\text{expertise}} < .001$). The second criterion is satisfied. Influencer characteristics (popularity and expertise) have positive impact on the mediator, para-social(interactions) ($p_{\text{popularity}} < .001$; $p_{\text{expertise}} < .01$). The third criteria are also satisfied. After controlling for para-social(interactions), the relationship between influencer characteristics (popularity and expertise) and sale performance is still significant ($p_{\text{popularity}} < .001$; $p_{\text{expertise}} < .001$). Thus, the results show that there is clear statistical evidence to verify that customer para-social interaction plays a mediating impact in the relationship between influencer characteristics (popularity and expertise) and sales performance, indicating that H5 is accepted. Table 5 presents the mediation results.

Table 5 Direct and indirect effects of influencer characteristics on sales: Measure of likes and expertise

	Step1: DV=Sales	Step2: Moderator=Interactions	Step3: DV=Sales
Likes	.215***	0.335***	0.156***
Expertise	-.166***	0.021**	-0.170***
Expertise*Likes	.0051	0.011***	0.003
Interactions			0.177***
Constant	-8.155***	-2.863***	-7.647***
Observations	21,517	21,517	21,517
R²	0.132	0.471	0.134

Robust Test

In what follows, we check the robustness of our findings with applying Sobel test (Sobel, 1982; Mackinnon et al., 2002) and Bootstrap (Gorodutse, A. H., & Hilman, 2014; Preacher, K. J., Rucker, D. D., & Hayes, 2007). As shown in Table 6, indicates that para-social interaction can mediate the relationship between influencer characteristics (popularity and expertise) and sales performance indirectly, as depicted in the analysis by $p < 0.001$. This means that influencers on live streaming has to promote their interaction activities in order to maintain existing fans and gaining more followers. Next, we employ Bootstrap to correct Sobel test results. To perform the bootstrap analysis, we used the graphical interface of Stata 15.0 (Roodman, D., Nielsen, M. Ø., MacKinnon, J. G., & Webb, 2019), which is the one currently available software package we examined that directly produces bootstrapped percentile and bias-corrected confidence intervals for indirect effects. We began by drawing a three-variable path diagram similar to Figure 2B, including error terms for the endogenous mediator and dependent variables. Next, we requested 500 bootstrap samples, drawn by default with replacement. Note that a request for 95% confidence intervals must be used to override the default that provides 90% confidence intervals. Although one should select only

bias-corrected intervals, we selected both the bias-corrected and percentile (i.e., uncorrected) options for illustration purposes. We requested bootstrap estimates of indirect and direct through the Output submenu. Bootstrapped estimates of the indirect and direct path coefficients are shown in Table 7.

The 95% confidence intervals in Table 7 exclude zero for indirect effect, which ranges from .4857252 to .5707166, and from -.2287354 to -.1260521, respectively, meaning that they are statistically significant by conventional standards. The total effect of influencer popularity on sales performance $c_{popularity}=0.7045(.5265+.1780)$, and the mediation effect is 74.7% $(.5265/.7045)$ and the total effect of influencer expertise on sales performance $c_{expertise}=0.2749(.0053+.2696)$, and the mediation effect is 1.93% $(.0053/0.2749)$.

Table 6 Sobel test (mediation test)

Input		Test statistics	Std.error	p-value
Likes-interactions-sales				
a.55387	Sobel test	.63043064	.01556817	0
b 1.13823	Aroian test	.63043064	.01556852	0
Sa.00388	Goodman test	.63043064	.01556782	0
Sb.026954				0
Proportion of total effect that is mediated	1.8092108			
Expertise-interactions-sales				
a -.021359	Sobel test	-.01910777	.00738992	.00971946
b.894613	Aroian test	-.01910777	.00739164	.00973643
Sa.008248	Goodman test	-.01910777	.0073882	.00970251
Sb.019327				
Proportion of total effect that is mediated	-.07230968			
Likes*Expertise-interactions-sales				
a-.013694	Sobel test	-.01220157	.00436323	.0051667
b.890994	Aroian test	-.01220157	.00436426	.00517726
Sa.004888	Goodman test	-.01220157	.0043622	.00515616
Sb.019392				
Proportion of total effect that is mediated	-1.6915065			

a= raw (unstandardized) regression coefficient for the association between IV and mediator.

Sa = Standard error of a.

b = raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV).

Sb = standard error of b.

Table 7 Illustration of Bootstrap Methods to Test Significance of Mediation Effects

Path/effect	Bootstrap estimate		95% Confidence interval		
	Observed	Bootstrap	Standard normal NT	Bootstrap percentile	Bootstrap

	Coef.	Std. Err.					with bias correction
<i>Likes-interactions-sales</i>							
Indirect effect	.5264786	.0216255	.4840935	.5688637	.4857252	.5707166	.4827239 .5696824
direct effect	-.178022	.0268194	-.2305874	-.1254574	-.2287354	-.1260521	-.2289131 -.1266004
	4						
<i>Expertise-interactions-sales</i>							
Indirect effect	-.005313	-.0001678	-.0188578	.008230	-.0188811	.0081592	-.0186735 .0084127
direct effect	.2695628	-.0000924	.2219438	.3171818	.2205839	.3163244	.2215818 .318947
	2						
<i>Likes*Expertise-interactions-sales</i>							
Indirect effect	-.004719	.0061709	-.0168141	.007375	-.0171983	.0074622	-.0172435 .0072092
direct effect	.0119327	.0153445	-.0181419	.042007	-.0187975	.0408925	-.0182565 .0423185
	3		5				
			4				

Note. Estimates are unstandardized. 500 bootstrap samples.

Discussion

In this research, we estimated the effectiveness of influencer product-oriented campaigns using an empirical database. The results provide support of most of our hypothesized effects (with the exception of H2, H5(c)). Based on the model, we find a positive impact of influencer popularity. Interestingly, influencer expertise has negative effect on behavioral loyalty. Specifically, the feature of our data platform is entertainment, and the audience prefer other characteristics of influencers other than expertise. Further study could expand data sources to check expertise effect. In addition, comparing the direct relationships (H1,H2) with the relationships in which para-social interaction does mediate between them (H4), we find para-social moderating effect contribute more to influencer expertise than influencer popularity, which is also interesting finding.

We find a significant interaction between para-social interaction and behavioral loyalty. In addition, there is positive impact between influencer popularity and expertise. Specifically, influencer expertise exerts influencer popularity. Regarding the mediating effect, para-social interaction acts a positive mediator between influencer popularity and behavioral loyalty, and between influencer expertise and behavioral loyalty.

In addition, we estimate Sobel and Bootstrap for robustness checks, whose results are consistent with our reported findings.

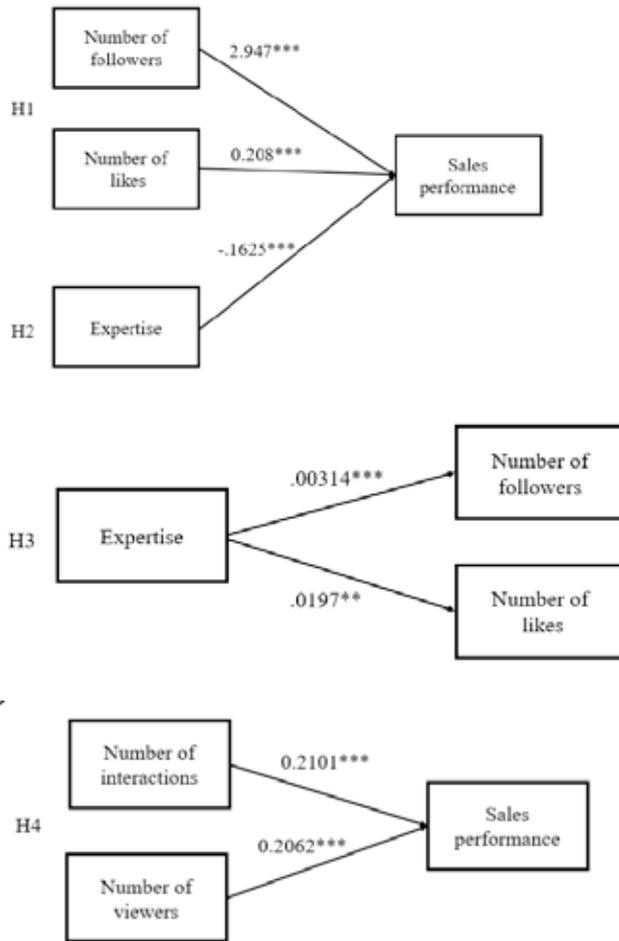


Fig. H1-H4 Results

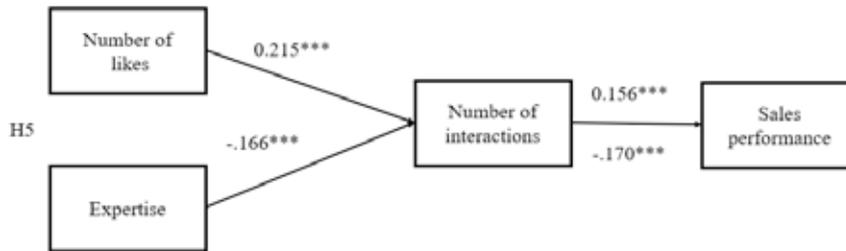


Fig. H5Results

Theoretical contributions

Our research is the first to estimate the impact of live streaming trust among fans, influencers and brands using real-time panel data. In addition, the study is the first to empirically measure para-social interaction between influencer and fans and trust using filed data. Importantly, we contribute to the literature on live streaming, trust transfer theory and para-social interaction, and especially on influencer expertise by enriching how to measure online influencer expertise (Hughes, Swaminathan and Brooks, 2019). Regarding the expertise, we subdivide 14 product categories into 31 subcategories. With various products recommended by influencers in each live streaming campaign, online influencer shows different extents of expertise. Importantly, this study may offer

novel insight into measuring influencer expertise, popularity and para-social interaction using real-time data.

Practical implications

We offer novel insights to managers and online influencers implementing live streaming campaigns. First, this article delineates best practices for online influencers based on the live streaming platform. Trust from fans to influencers has positive impact on consumer behavior loyalty. Filled with risks and privacy in the virtual world, online influencers should focus on how to develop fans' trust (i.e., promote influencers popularity). Interestingly, when trying to bolster live streaming trial campaigns, online influencers expertise has a negative influence on behavior loyalty, which means balance the expertise area and consumers flavor. When selecting influencers to endorse, managers should consider the extent of influencers match and fans favor. Second, when implementing campaigns on live streaming, online influencers should develop para-social relationship with fans which makes fans not only treat online influencers as a star but also a friend who can be trusted. In other words, for forming a long-term relationship with fans, online influencers should carefully consider the quality of products or brands. In addition, regarding para-social interaction mediating impact, para-social interaction promotes the effect on influencer expertise to sales performance. We further recommend that online influencers make more efforts on live streaming to increase fans' trust in brands recommended by influencers.

Research limitations and outlook

This research is subject to certain restrictions, which may present new directions for further analysis. We examined only a limited set of outcome metrics associated with a live streaming platform in China. Future studies should increase the set of outcome measures in various background cultures associated with consumer psychological theories. Further investigation may also explore how different live streaming platforms and how various intent campaigns of live streaming affect trust from fans to brands or commercial sales are worth examining and would extend Hughes et al. (2019) framework. Our results thus far have been based on real-time data (actual product-oriented campaigns), providing high generalization and meaningful insights into complex interplay of multiple factors that influence how these campaigns actually perform in real life. However, filed data limit our ability to manipulate other key independent variables, therefore we will enrich our findings by employing various data collecting methods such as experiments.

In addition, this research uses the influencers' live streaming activities but does not formally take into account the entire past performance or longevity of the influencers' careers. This could be an important variable to consider in future research. Finally, there is room for research on how influencer expertise in the live streaming context. Importantly, para-social interaction mediation effect between influencer characteristics and sales performance.

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DO STORE FLEYS TRIGGER CROSS-CATEGORY SALES? THE MODERATING ROLE OF CATEGORIES' RELATEDNESS

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INTRODUCTION

Store flyers are a key marketing instrument for retailers, even in the digital age (Ziliani & Ieva, 2015), accounting for over 50% of retailers' marketing budget (Gázquez-Abad and Martínez-López 2016). Retailers use store flyers to communicate to customers on (part of) their assortment and promotions, and thereby hope to attract customers to visit the store.

In this study, we intend to investigate the own- and cross-category sales impact of featuring categories in a store flyer. While the own-category sales impact of store flyers has been shown by prior literature in the past (Gázquez-Abad & Martínez-López, 2016; Gijsbrechts, Campo, & Goossens, 2003), we are one of the first to do an extensive study on the cross-category sales impact of featuring categories in a store flyer.

In addition to investigating the overall cross-category impact of store flyers, we explore how the relatedness between pairs of (featured and other) categories explains differences in cross-sales effects. Previous studies, in the context of sales promotion, have demonstrated that the strength of linkages between brands or categories is a good predictor of the magnitude of sales spillover (Leeflang and Parreño-Selva 2012). Following prior literature, we propose that categories can be related via: i) similarity in usage (degree of complementarity and degree of

substitution), ii) similarity in category characteristics (such as the level of involvement or the degree of hedonism/utilitarianism), and iii) physical proximity (distance between categories in the store) (Leeflang and Parreño-Selva 2012; Sahni 2016). Figure 1 summarizes the conceptual framework of this study.

[Insert Figure 1 here]

THEORETICAL BACKGROUND

Cross-sales impact of featuring categories in a store flyer

Direct marketing literature has shown that a store flyer has a positive impact on both store traffic (Gijbrecchts et al., 2003; Gázquez-Abad and Martínez-Lopez, 2016). Given that consumers oftentimes buy multiple categories during one shopping trip (Sahni, 2016), it is not unlikely that consumers – once they are in the store – end up buying not only featured categories but spend money on other categories as well (Leeflang and Parreño-Selva, 2012).

On the other hand, and according to mental accounting theory (Thaler, 1985), when consumers face a binding budget constraint on a shopping trip, an increase in the amount spent for a product category featured in a store flyer (on a given shopping trip) would decrease the amount that is perceived to be available to spend on other categories, producing potential negative cross-sales effects.

Moderation effect of category relatedness a store flyer

According to the accessibility-diagnostics framework of Feldman and Lynch (1988), the transfer of information of a cue pertaining to one category (such as the information coming from featuring a category in a store flyer) to another category depends on the nature and the strength of the link between the two categories (accessibility) (Kushwaha & Shankar, 2013).

Based on this literature, we focus on three dimensions of category relatedness that could influence the degree of cross-sales flyer effects: (i) the extent to which the categories are related in usage, (ii) the similarity between categories based on an overlap in category characteristics, and (iii) the physical distance between categories in a store.

EMPIRICAL SETTING

In this study we use a unique scanner weekly sales dataset from a large independent retailer in The Netherlands, with a single store of more than 22,000 m² surface area and around 300,000 visitors in a year. The retailer has a large variety of categories within eight departments.

The retailer's main marketing communications are door-to-door specialist flyers (65% of all direct marketing communications), where two or three departments are featured per flyer and the retailer wants to convey the message that they are a specialist in the featured departments (they label their flyers as 'specialist in departments x and y').

MODEL

In line with Gielens (2012) and Datta, Ailawadi, and Van Heerde (2017), we use a two-stage model. In the first stage, we model the cross-sales flyer effects for each pair (either two departments for the department-level model, or two categories for the category-level model). Then, in the second stage, we extract the estimated cross-sales flyer coefficients from the first stage and use them as dependent variables to explore the impact of the relatedness between pairs.

First-stage models

Department-level model

Given that there are eight departments, we estimate eight sales response models with the log of the sales of department j at week t , $t = 1, \dots, T$, as the dependent variables. We use a regression model with the following equation:

$$\begin{aligned} 1) \text{LnSales}_{jt} = & \beta_{j0} + \left(\sum_{k=1}^{k=n} \beta_{j1k} \text{Crossdep_flyer}_{kt} \right) + \beta_{j2} \text{Own_flyer}_{jt} \\ & + \beta_{j3} \text{Holiday_period}_t + \beta_{j4} \text{Closure_day}_t \\ & + \left(\sum_{Q=2}^{Q=4} \beta_{j5,Q} \text{Quarter_dummy}_t \right) + \beta_{j6} \text{Two_Specialist}_{jt} \\ & + \beta_{j7} \text{Other_Marketing_Actions}_{jt} \\ & + \left(\sum_{k=1}^{k=m} \beta_{j8k} \text{Copula_Crossdep_flyer}_k \right) + \beta_{j9} \text{Copula_Own_flyer}_j + \epsilon_j. \end{aligned}$$

$Crossdep_flyer_{kt}$ is the share in a flyer in week t for each of the other departments k ($k=1$ to m , with $k \neq j$) and Own_flyer_{jt} is the share of the focal department j in the flyer in week t . We control for the impact of these other marketing communication activities in our analyses, holiday period, days that the store is closed, and the different quarters in a year (quarter one is the baseline).

We also need to control for the endogeneity of the own-department and cross-department flyer share variables as the decision of a retailer to feature certain departments in a given week is not random. To do so, we rely on an instrument-free method using Gaussian copulas, which was introduced by Park and Gupta (2012).

Category-level model

Next to the department-level model, we estimate a category-level model within each department. In particular, we model category i 's log of sales at week t , $t = 1, \dots, T$ as a function of cross-category flyer share, where we limit the effects to categories within the same department and use a similar model as in Equation I but adapted to the category level.

$$\begin{aligned}
 II) \ln Sales_{it} = & \beta_{i0} + \left(\sum_{l=1}^{l=m} \beta_{i1l} Crosscat_flyer_{lt} \right) + \beta_{i2} Own_flyer_{it} \\
 & + \left(\sum_{k=1}^{k=n} \beta_{i3k} Crossdep_flyer_{kt} \right) + \beta_{i4} Holiday_period_t \\
 & + \beta_{i5} Closure_day_t + \sum_{Q=2}^{Q=4} \beta_{i6,Q} Quarter_dummy_t + \beta_{i7} Two_specialist_{it} \\
 & + \beta_{i8} Other_Marketing_Actions_{it} + \left(\sum_{l=1}^{l=m} \beta_{i9l} Copula_CrosCat_flyer_l \right) \\
 & + \beta_{i10} Copula_Own_flyer_{it} + \left(\sum_{k=1}^{k=n} \beta_{i11k} Copula_CrossDep_flyer_k \right) + \epsilon
 \end{aligned}$$

$Crosscat_flyer_{lt}$ is the share in a flyer in week t for each of the other categories l ($l=1$ to m , with $l \neq i$) within the same department j .

Second-stage estimations

To investigate the moderating impact of relatedness on these cross-sales effects of flyers, we regress the coefficients of the cross-sales flyer effects extracted from the first-stage department-

level estimations, as well as the cross-sales flyer effects extracted from the first-stage category-level estimations, as a function of the five different relatedness types that we identified previously. We use weighted least squares (WLS), with the inverse of the dependent variables' standard error as weights.

The second-stage model for the department level can be written as follows:

$$III) \beta_{k\ on\ j} = \beta_0 + \beta_1 \text{Complementarity}_{j\ and\ k} + \beta_2 \text{Substitution}_{j\ and\ k} \\ + \beta_3 \text{Hedonic}_{j\ and\ k} + \beta_4 \text{Involvement}_{j\ and\ k} + \beta_5 \text{Distance}_{j\ and\ k}$$

For measuring the relatedness in usage and category characteristics, we conducted a survey among 33 end consumers (judgement sample) and asked them to rate the relatedness in usage (for a pair), as well as provide a score on hedonism and involvement (that are used to assess the relatedness in category characteristics for a pair). In order to calculate the distance between pairs of departments or pairs of categories within a department, we calculate the Euclidean distance between each pair.

ESTIMATION RESULTS

First-stage estimation results

To test whether the coefficients of cross-sales flyer effects as well as control variables (including the own flyer effect) are significantly different from zero across all first-stage estimations, the added Zs method is used (Rosenthal 1995). Table 1 summarizes the results of the first-stage models.

[Insert Table 1 here]

The sales effect of the cross-category flyer share at the category-level model is not significant ($Z - value_{crosscat_flyer} = -1.32, p = .19$). However, the significant negative Z-value of the sales effect of the cross-department flyer share, both at the department- and category-level model confirms that cross-flyer effects between departments are negative ($Z - value_{crossdep_flyer} = -2.74, p < .01$ at department-level model and $Z - value_{crossdep_flyer} = -4.2, p < .01$ at category-level model). We thus find evidence for negative cross-sales effects of featuring departments in the flyer and no significant cross-sales effects of featuring categories in

the flyer. We do not find a similar negative (mental budgeting) for cross-category flyer effects, nor do we find the positive effect that would point to spillover. This null effect is most likely caused by differences in category relatedness that we tap into in the next paragraph.

Second-stage estimation results

Table 2 presents the result of the second-stage model, at the department level (left panel) and at the category level (right panel). At the department level, we do not find a significant effect of the relatedness measures, except for the degree of complementarity between the departments that is positive and marginally significant ($\beta=.07$, $p=.09$). This implies that we find small evidence that the relatedness of departments has an impact at the department level.

[Insert Table 2 here]

Unlike the department-level results, the results from the second-stage analysis on the cross-sales effects of featuring categories in-store flyers suggest moderating roles of the relatedness between two categories. First, the degree of complementarity has a positive and significant impact on the cross-category sales effects of store flyers ($\beta=1.79$, $p=.01$). Second, the similarity on the hedonism level between two categories has the expected negative impact on cross-category sales effects of flyers ($\beta=-1.23$, $p<.01$). Lastly, the distance between the two categories has an expected significant negative effect on the cross-category sales effect of store flyers ($\beta=-.05$, $p<.01$).

DISCUSSION AND MANAGERIAL IMPLICATIONS

In this study, we find that featuring a department in a store flyer negatively influences the sales of other departments. This negative cross-department sales effect of store flyers can be explained by mental accounting theory (Thaler, 1985).

In contrast to the department-level results, we did not find the overall negative cross-category sales effect of store flyers. However, we found that several category relatedness constructs are exerting a significant impact on cross-category sales. In particular, our results show that the degree of complementarity between categories has a significant positive impact on the cross-sales flyer effect. What is more, we found that the higher the similarity on degree

of hedonism between featured and other categories, the more positive the sales spillover to other categories, in line with the accessibility-diagnostics framework (Feldman and Lynch 1988). In contrast, similarity between categories in the level of involvement exerts a negative effect on cross-sales flyer effects at the category level. Finally, our study illustrates that distance between categories in the store is an important source of cross-sales flyer effects. More specifically, the more positive cross-sales flyer effects are found for categories that are located closer in the store to the featured categories.

Tables and Figures

Table 1- First-stage estimation results (at department and category level)

Variable	Department-level model		Category-level model	
	Rosenthal Z-value	p value	Rosenthal Z-value	p value
Constant	19.8	<.01***	38.72	<.01***
Cross-category flyer share	N.A.	N.A.	-1.32	0.19
Cross-department flyer share	-2.74	0.01**	-4.20	<.01***
Own flyer share	0.82	0.20	1.62	0.05**
Holiday period	3.66	<.01***	5.60	<.01***
Closure day	-2.32	0.01**	-4.26	<.01***
Two specialist flyer	1.58	0.06*	1.57	0.06*
Other marketing actions	1.84	0.03**	1.91	0.03**
q2	2.13	0.03**	2.01	0.04**
q3	1	0.32	-0.45	0.65
q4	1.59	0.11*	0.64	0.52
Copula Own flyer share	-1.28	0.10	0.96	0.33
Copula Cross-category flyer share	N.A.	N.A.	-0.71	0.48
Copula Cross-department flyer	-4.34	<.01***	-1.41	.15

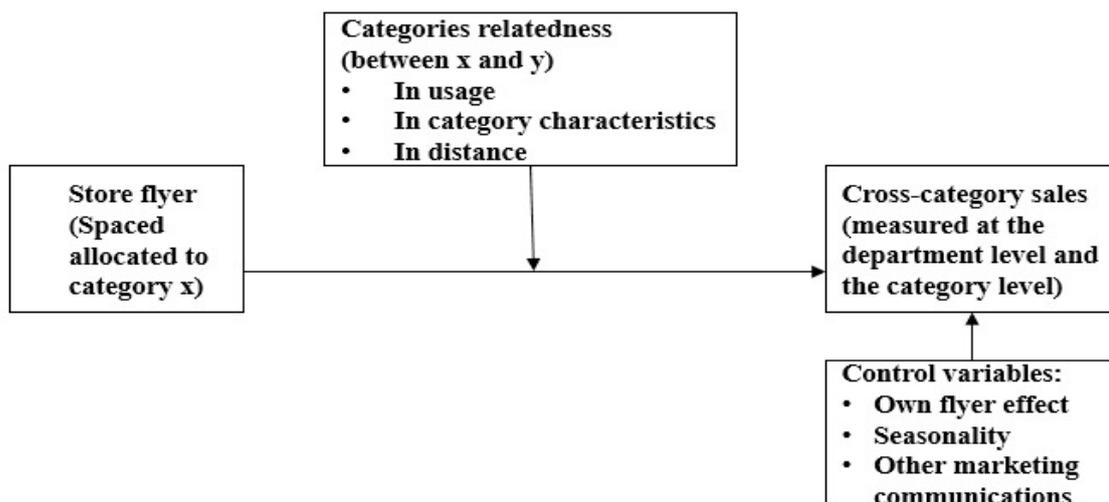
p<.1=*, *p*<.05=** and *p*<.01=***; We report one-sided *p*-values for the variables for which we have clear expectations on their direction (own flyer share, Holiday period, Closure day, Two specialist and Other marketing actions) and two-sided *p*-values for the rest of variables.

Table 2- Second-stage estimation results at the department/ category level

Variables		Department-level		Category-level	
		Coef.	P-value	Coef.	P-value
Similarity in usage	Complementarity	0.07	0.09*	1.79	<.01***
	Substitution	-0.04	0.38	-0.32	0.33
Similarity in characteristics	Hedonic	0.03	0.35	-1.23	<.01***
	Involvement	0.08	0.1	4.76	<.01***
Similarity in location	Distance	0.002	0.25	-0.05	<.01***
Control variables	Department 1			0.96	0.68
	Department 2			-1.15	0.72
	Department 3			-17.16	0.01**
	Department 4			6.07	0.01**
	Constant	0.14	0.77	-10.47	<.01***

$p < .1 = *$, $p < .05 = **$ and $p < .01 = ***$; we report one-sided p-values for the variables for which we have clear expectations on their direction (cf. the hypotheses) and two-sided p-values for the rest of variable.

Figure 1- Conceptual framework



Comments of reviewers

- Reviewers' 1 ratings and suggestions:

- (1.) The overall contribution of the paper to retail research: 5
- (2.) The readability of the manuscript: 1
- (3.) The review of the existing literature: 3
- (4.) The research method and discussion of results: 3
- (5.) The managerial/social implications: 3
- (6.) Decision: Rejected
- (7.) Suggestions: "The used two-stage model should be explained further. It should be clearly and more accurately shown how the second-stage model is related to the first-stage model and in which case it is well-justified.

More information on data collection method should be provided.

How this study can be used by manager and its limits should be added."

- Reviewers' 2 ratings and suggestions:

- (1.) The overall contribution of the paper to retail research: 7
- (2.) The readability of the manuscript: 7
- (3.) The review of the existing literature: 6
- (4.) The research method and discussion of results: 7
- (5.) The managerial/social implications: 3
- (6.) Decision: Accepted
- (7.) Suggestions: "This paper covers a very interesting topic in a well-presented and easily understandable manner. The quality of the methodology used and the presentation of the results are very high. The discussion could be substantially longer as the results offer potential for including specific recommendations for retailers. I still highly recommend the acceptance of this study."

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“CREATIVE CONCEPT OR WATERED-DOWN VERSION? FACTORS THAT INFLUENCE HOW NEW STORE FORMATS CONTRIBUTE TO A RETAIL PORTFOLIO”

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The purpose of this paper is identify factors that influence how a concept store format contributes to a retail portfolio from a customer experience standpoint. Our case study is exploratory in nature, meaning that we aim to open discussions about new store formats and to make tentative suggestions for future, more conclusive, research. With this in mind, we focus on qualitatively reconnoitring the development of new format, city-centre stores from multiple perspectives: that of customers, industry experts and managers.

Our three-perspective approach allows us to highlight the contributions of the concept store to the retail portfolio: improved customer experience, market penetration, learnings, revived corporate image, and positive (as well as negative) financial outcomes.

We pinpoint influential factors that can help retailers to determine how a concept store will contribute to a retail portfolio. In contrast to previous research, which suggests that format diversification results in reduced competitiveness, our findings indicate that diversification might allow retailers to maintain competitiveness as well as attracting latent customers.

Our findings are intended to stimulate academic discussions about measuring the success of a diversified retail portfolio as well as providing retailers with some initial knowledge and tools with which to do so.

“CUSTOMERS FIRST, ARE YOU KIDDING ?”

Fabien Eymas, Faouzi Bensebaa (Université Paris 8)

Purpose – Despite the critical role acknowledged to small independent retailers (SIR) in the revitalisation of city centres, a few studies were conducted better to understand their competitive strategies. Besides, researches on the topic are either normative - saying rather what should be done than focusing on what is actually done – or quite old. Thus, specifically, the purpose of this paper is to examine empirically SIRs’ competitive behaviour.

Design/methodology/approach – This study is based on the interpretative phenomenological analysis (IPA) of the transcriptions of the semi-structured interviews of SIRs’ executives.

Findings – Despite being usually considered as key to success, customer orientation appears to be a simple option. SIRs can focus their attention on other elements when it comes to design and implement their competitive strategies. Five types of SIRs then emerged from the study.

Practical implications – The typology should be a useful tool for SIRs interested in competitive strategies and for municipalities looking for new insights to succeed in the revitalisation of their city centre.

Social implications – Revitalisation of city centres is a big challenge for many Western cities, especially small and middle-size ones.

Originality/value – To the best of our knowledge, the typology that comes from this study seems to be the very first one on SIRs. Theoretically, it may help organising researches on SIRs’ competitive behaviour. Pragmatically, it allows better to understand SIRs’ competitive strategies.

Keywords – Competitive behaviour, competitive strategy, customer orientation, interpretative phenomenological analysis, small independent retailer.

Paper type – Research paper

SUSTAINABILITY, INNOVATION AND SATISFACTION: THE MODERATING EFFECT OF GENDER IN RETAILING

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Introduction

Although traditionally the empirical and conceptual evidence has pointed out the existence of differences in the use of ICT, especially the Internet, between men and women in retailing (Meuter et al., 2005; Weijters et al., 2007), more recent studies provide results in the opposite direction (Contreras et al., 2016; Torres and Arroyo-Cañada, 2016). These new contributions argue that in retailing, there are no significant differences regarding gender, neither in the use of ICT or in the perception of the innovations introduced by retailers. Moreover, as far as sustainability is concerned, the studies that have tackled with differences between men and women, have not obtained concluding results. Whereas some researchers conclude the existence of a moderating effect of gender in the perception that customers have regarding the sustainable practices implemented by stores (Das, 2014; Walsh et al., 2017), others do not find such effect (Calabrese et al., 2016; Kassinis et al., 2016).

In addition to this, the literature highlights that innovation and sustainability emerge as two key elements in the development of competitive advantages for the organisations (Gonzalez-Lafaysse and Lapassouse-Madrid, 2016; Marcon et al., 2017; Marín and Gil-Saura, 2017; Ruiz-Molina et al., 2017; Marín et al., 2019a; Marín et al., 2019b). In particular, it has been pointed out that innovation, from the perspective of the consumer, can be built through product innovation, marketing innovation and relational innovation (Lin, 2015); however, few studies tackle with innovation in retailing under a multidimensional approach. As far as sustainability is concerned, it is commonly understood under the Triple Bottom Line perspective (Elkington, 2004), and its study in marketing, and more specifically in retailing, poses important challenges (Marín et al., 2019a), thus representing an opportunity for further research.

Purpose*

Based on the foregoing, in the context of grocery retailing, this study progresses in the analysis of the effects of innovation and sustainability on customer satisfaction, and aims at examining the existence of significant differences between men and women in such relations.

Conceptual framework

The current literature in retailing shows that innovation and sustainability are postulated as variables that can facilitate the development of competitive advantages for organizations (Marín et al., 2019a; Marín et al., 2019b). One of the main reasons for economic growth in retailing is the implementation of innovative practices by organizations (Lin, 2015), which

has been defined as the lifeblood of companies (Shankar and Yadav, 2011). In addition, the increased awareness of consumers has led some companies to start developing actions aimed at meeting the sustainable development goals set by the current legislation (Elkington, 2004; Marín et al., 2019b). In order to achieve the proposed objectives, we posit the hypotheses that conform the causal model for this research:

H1: Customer perceptions of the retailer’s sustainable practices have a positive effect on customer satisfaction towards the store.

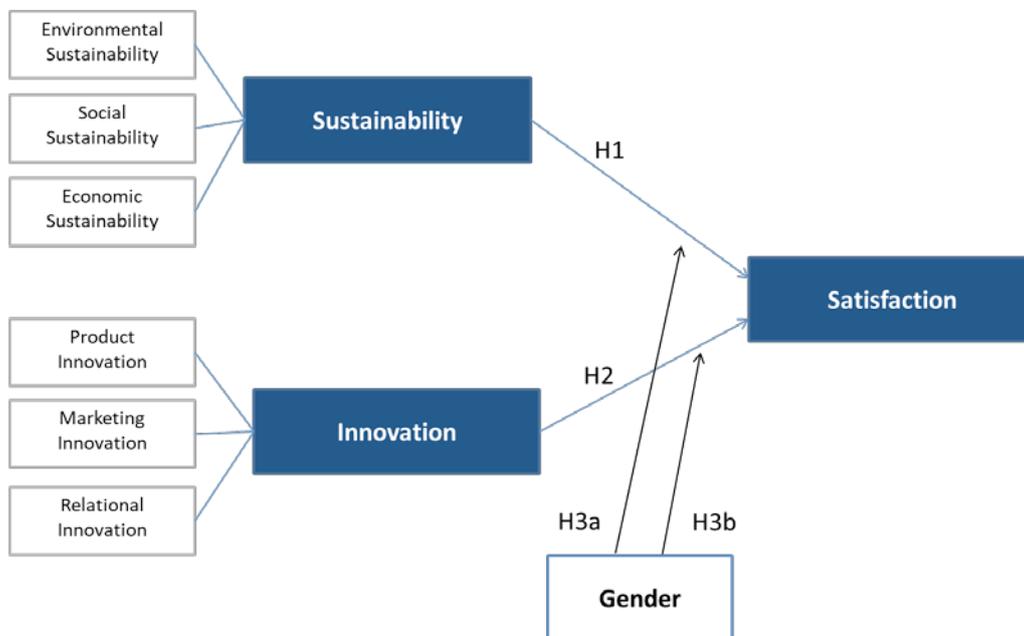
H2: Customer perceptions of the retailer’s innovations have a positive effect on customer satisfaction towards the store.

H3a: The effect of sustainability on customer satisfaction in retailing is moderated by gender.

H3b: The effect of innovation on customer satisfaction in retailing is moderated by gender.

All in all, Figure 1 shows the research model that gathers the relations posed in the above hypotheses.

Figure 1. Proposed research model



Source: Authors’ proposal.

Design/methodology/approach*

To achieve the proposed aim, quantitative research is proposed using an *ad hoc* structured questionnaire with enclosed questions. The items to measure the variables analysed have been extracted from several scales used in the marketing literature, and have been adapted to the characteristics of the context and the aim of the present study. In particular, to measure innovation, the scale of Lin (2015) has been retained; to measure customer perceptions on the sustainability practices implemented by companies, the scale proposed by Lavorata (2014) has been used; and last, customer satisfaction with the store has been evaluated through the scale proposed by Bloemer and Oderkerken-Schröder (2002). In all the cases the items have been measured on a 7-point Likert scale (1=totally disagree; 7=totally agree).

To obtain the necessary information to test the proposed hypotheses, a personal survey is performed. The data collection was effected in April and May 2017 in the region of Valencia (Spain), following a quota sampling procedure, following the interception technique at the

store exit. Five grocery retailers were selected according to their wide assortment and their positioning in the Spanish market in three commercial formats (hypermarket, supermarket and discount store). 510 valid questionnaires were collected, of which 59.6% correspond to women and 40.4% to men.

The data analysis was conducted in two phases. Firstly, the measurement instrument was validated; and secondly, the structural equation model was estimated. Both analyses were performed using the Partial Least Squares (PLS) technique. Some authors (e.g. Fornell and Bookstein, 1982) point out that the use of the PLS avoids, on the one hand, inadmissible solutions such as negative estimates of the variance of the indicators and standardized loads greater than 1; and, on the other hand, the indeterminacy of factors thanks to the fact that the PLS explicitly defines the latent variables, making it easier to have the scores of the latent variables or factors.

Findings*

The results obtained in this research reveal important findings. Firstly, the evidence obtained allows to conclude that, in retailing, innovation and sustainability are two multidimensional constructs that can be conceptualized as second-order constructs. In particular, innovation is built from three factors: product innovation, marketing innovation and relational innovation, thus confirming the results obtained by previous works such as the one of Lin (2015). As far as sustainability in retailing is concerned, it is aligned with the basic principles of the Triple Bottom Line model, being composed by the economic, environmental and social dimensions.

Second, we confirm that the R^2 values of the dependent constructs on the structural model includes are higher than 0.1, the minimum threshold established by Falk and Miller (1992). In this sense, it is observed that satisfaction presents an R^2 value of 0.411.

Thirdly, the results of the present study reflect the importance of sustainability and innovation as master pillars in retailing, given their positive impact on the level of customer satisfaction ($\beta_1=0.405$, $p < 0.01$, H1; $\beta_2=0.341$, $p < 0.01$, H2). In this sense, these findings allow to progress in the knowledge about these variables, and invite to go further of customer satisfaction to observe their bonds with other outcome variables such as retail equity (Marín et al., 2019a), trust and/or eWOM (Bhat et al., 2020).

Furthermore, in grocery retailing, we do not observe significant differences because of gender in the effects on the satisfaction explained by the intensity of the retailer's innovative practices and by his actions to promote sustainability. These results are aligned with recent studies that conclude the non-existence of differences between men and women regarding the use of ICT tools (Gil-Saura et al., 2009), the use of Internet (Torres and Arroyo-Cañada, 2016), the perception of retailer's innovations (Contreras et al., 2016) and/or the implementation of sustainable practices (Calabrese et al., 2016; Kassinis et al., 2016), in contrast to those works that found differences across gender (Meuter et al., 2005).

Original/value*

The present study concludes that the effects of sustainability and innovation on customer satisfaction do not differ by gender, and consequently, satisfaction of both male and female consumers towards the store is explained by innovation (that is built, in turn, by product innovation, marketing innovation, and relational innovation) and sustainability (in their economic, environmental and social dimensions). Although both factors are important in generating customer satisfaction, the results obtained allow to conclude that in grocery retailing, the effect of sustainability is more relevant than the effect of innovation.

Practical implications

The findings of the present study allow to conclude the need to implement innovative actions and sustainable practices with the main purpose to build satisfaction in consumers, both men and women, in grocery retailing. In this sense, concerning innovation, some of the practices that may be developed in retailing should be addressed to generate new products, deliver additional innovative services, introduce changes in the store decoration or develop new promotions. In this way, retailers may consider a narrower collaboration with their customers by means of programs such as tester-customer already developed by some store chains, or other participation/co-creation programs, meetings with customers, and online forum, among others. Regarding sustainability, it would be important that grocery store managers promote the introduction of ecological and fair trade products in the store assortment, the participation of the company in humanitarian actions, the use of the public transport by employees, the reduction of energy consumption, product recycling or the elimination of plastic packaging of some products and/or the replacement by biodegradable materials. Currently, there are movements such as “Fridays for future” that try to make society aware of the importance of acting against climate change and global warming. Movements like this support responsible consumption by consumers, as well as the development of a sustainable productive activity by companies, causing the least possible harm to society and the environment. Furthermore, as a consequence of the COVID19 crisis, many retail establishments will be forced to make decisions, probably innovative, to adapt their businesses to this new reality.

In this way, it seems evident that, operating on the innovation dimensions (product, marketing and relational innovation) and the sustainability dimensions (environmental, social and economic sustainability), consumers will be more satisfied with the retailer.

Research limitations and outlook

The results obtained in this work allow to infer opportunities for further research in marketing. In this sense, we consider that it is necessary to extend the model proposed to include other variables that may act as antecedents or as consequents, thus improving the explanatory capacity of the model. Retail equity, loyalty or commitment may be variables to be taken into account to gain insight into the mechanisms through which innovation and sustainability generate bonds between customers and retailers. Similarly, other moderating variables may be analyzed, e.g. customer age, occupation, or behavioural variables (purchase frequency) that may contribute to explain how the effects of innovation and sustainability are intensified in the development of satisfaction.

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Appendix

Keywords*

Sustainability, innovation, satisfaction, gender, retailing

USE OF SOCIAL NETWORKING SITES BY FOOD RETAILERS

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Introduction

The social media environment has seen remarkable growth in the last decade (Ladhari et al., 2018). Social networking sites (SNSs), such as Facebook, Twitter and LinkedIn, have extensively changed how people communicate with each other and how businesses and customers can interact (Dijkmans et al., 2015). In the literature, SNSs are defined as a “group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content” (Cocosila and Igonor, 2015, p. 366). As they help in getting a better understanding of customer’s needs, they can be a very important tool in aiding a company’s product development cycle (Agrawal et al., 2018). In addition, the use of SNSs is associated with brand loyalty and positive words-of-mouth (Yap and Garry, 2017), higher market share and revenue (Wattanacharoensil and Schuckert, 2015), positive brand evaluations and purchase intentions (Beukeboom et al., 2015) and improved brand relationship quality and brand reputation (Kang et al., 2014; Park and Kim, 2014). It is thus not surprising that organizations are integrating social networking sites as part of their marketing strategies (Ladhari et al., 2018; Relling et al., 2016).

Both the implementation of a social media strategy and its effectiveness are found to be very industry dependent (Bruhn et al., 2012). In this respect, Karimov and Brengman (2011) show that the monetary and symbolic value of the products sold by e-retailers influence the utilization of social media features – including SNSs. In particular, for websites selling cheaper products (i.e. with low monetary value), the researchers find that more social media cues are utilized for products with a higher symbolic value (such as apparel and beauty products) than for products with a lower symbolic value (such as food and groceries). However, Ladhari et al. (2018) put forward that SNSs provide enormous opportunities to businesses in food retail. Still, to date, research on the topic in this industry is scant.

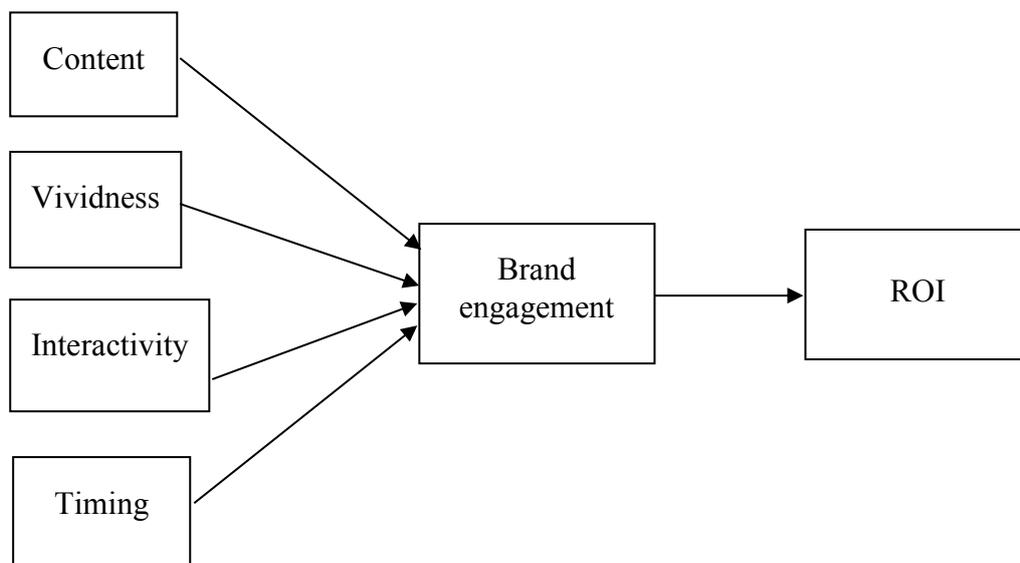
Purpose*

Given the fact that scholars have not paid a great deal of attention to the presence of food retail chains on social media networks, the present working paper aims to fill this gap. The specific research goals are two-fold. First, our aim is to investigate the presence of food retailers on SNSs. We therefore answer the following questions: (1) How efficient are grocers in using SNSs as a marketing tool?, and (2) Do they act in accordance to consumers’ expectations of a food retailer’s page?. A second research goal is to gain a profound understanding of food retailers’ motivations to integrate SNSs as part of their marketing strategies.

Conceptual framework

As explained in the Introduction, SNSs influence brand engagement. In the literature, brand engagement is operationalized by measuring the number of likes, shares, and reactions (Hoffman and Fodor, 2010). It has been shown that the level of vividness, the level of interactivity, the content, and the timing of a post significantly influence the number of likes, shares and reactions (De Vries et al., 2012; Cvijikj and Michahelles, 2013). These numbers operationalize the brand’s engagement created by SNSs and thus serve as an approximation of a SNS’s return on investment (see Figure 1).

The potential advantages of using SNSs are numerous (see amongst others Beukeboom et al., 2015; Rodriguez et al., 2012; Wilson et al., 2011; Zhang et al., 2015). Retailers have easier access to buyers as they can learn about consumer needs and trends. Organizations can engage customer relationship management at a personal level by being responsive to customers' concerns and requests. Interactions through their platforms lead to the development of bidirectional relationships between companies and customers. However, marketers and retailers must be aware of a possible “transfer of power”, as they now have much less control over the scope of their communications. In our empirical study, we will investigate how food retailers deal with this changing environment and what drives their presence on SNSs. Their reasons and motivations to integrate SNSs as part of their marketing strategies will be tested against those put forward in the literature.



Figuur 1: Conceptual framework

Design/methodology/approach*

In order to answer the research questions formulated above, we follow a two-stage approach. First, a qualitative content analysis of the Facebook page content of five major Belgian food retailers was conducted over a period of two months (April 2019 and May 2019). A codebook was generated based on the conceptual framework in Figure 1. In order to operationalize the variable ‘content’, we relied on the findings of Ladhari et al. (2018). The choice for Facebook is justified in the literature (see for example Ladhari et al., 2018). In addition, an explorative scan of the food retailers’ SNSs learned that most have other accounts as well. However, their level of activity on these channels is considerably lower than their presence on Facebook.

In a second stage, semi-structured in-depth interviews were conducted with marketing representatives of the same five Belgian food retailers. The interviews took place in February and March 2020. In order to make sure that a same set of questions was asked to all participants, a topic guide containing the main themes to be covered was used systematically (Guest, Bunce, & Johnson, 2006). The key questions relate to the use of SNSs by food retailers, their motivations to do so, and their insights into the future development of SNSs as a marketing tool. All interviews were audio recorded with permission and transcribed *verbatim* (in Dutch). The data will be analyzed using directed content analysis (Hsieh and Shannon, 2005).

Findings*

Table 1 gives an overview of the average number of likes, shares, and reactions on the Facebook page of the five Belgian retailers for our period under investigation. The average number of likes on the Facebook page of one particular retailer is considerably higher compared to the others: 10 984 541 versus an average of 327 778 for the other four retailers.

Table 1: Average number of likes, shares, and reactions

	Average	Minimum	Maximum
Number of likes (page)	2 459 130	47 610	10 984 541
Number of posts	53.6	18	117
Number of likes per post	426.6	1	5 800
Number of reactions per post	133.2	0	4 662
Number of shares per post	33.9	0	477
Number of interactions per post	2.7	0	52

Preliminary findings for the first research stage show that Belgian food retailers score well on the vividness of their posts and the content, but less on interaction. None of the 268 posts under investigation were plain text, the majority (60%) were picture, but retailers also make use of lightweight video ads (by adding lightweight motion to still images) to enhance vividness. Turning to the content, Belgian food retailers seem to respond well to consumers' motives. According to Ladhari et al. (2018), the top five reasons why consumers consult the Facebook page of a food retailer are to learn about discounted items, to read recommended recipes, to participate in contests, to learn about exclusive promotions, and to learn about new products. More than half of the messages (54%) relate to one of these functional motives. Interestingly, Belgian retailers also focus on non-functional aspects. Almost one out of five posts focus solely on entertainment without any informational feature.

With an average of 2.7 per post, the level of interaction is rather low (see Table 1). In 99 out of the 268 posts there was some form of communication between the consumer and the retailer. The interaction was often triggered by a question or a problem, however, the majority of the interactions (67.7%) was positive. As for the timing of the posts, the majority was placed either in the late afternoon (between 16 pm and 20 pm; 40.7%) or before noon (between 8 am and 12 pm; 39.2%). Still, within these time slots, no particular pattern could be identified.

In the second phase of our study, the analysis is no longer limited to Facebook, but involves retailers' activity on all SNSs. We investigate their motivations in relation to their overall SNS and marketing strategy. Preliminary results indicate that target audiences can differ depending on the SNS. In addition, in accordance with the observations in stage one, there seems to be no fixed pattern when it comes to the timing of the posts. In general, retailers try to capture the highest potential reach by monitoring when their followers are most active. They also align the posts with in-store actions and promotions.

As was already hinted at in our first research stage, entertaining the customer seems to be a key motivation for Belgian food retailers. All five use their SNSs to entertain and inspire. Interestingly, while Ladhari et al. (2018) perceive providing recipes as providing information and thus a functional benefit, the retailers in our sample mainly see this as a source of entertainment. Other important motivations relate to informing customers about special offers

and promotions and enhanced customer service and interaction. Overall, food retailers' SNSs are not used for internal communication, nor for communication with suppliers or partners.

Original/value*

The present working paper contributes to the literature on the use of SNSs as a marketing tool. As the implementation of a social media strategy is driven by industry-specific characteristics, it is important to investigate this matter on a sector level. Our research focuses on the currently understudied sector of food retailing.

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Keywords*

Social networking sites, food retailing, social media marketing, brand engagement, content analysis

CO-CREATION BEHAVIOUR IN FASHION RETAILING SECTOR: A LATENT SEGMENTATION APPROACH

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Introduction

The new technologies are a challenge for all sectors, forcing marketers to rethink the most appropriate ways to reach an increasingly young public, much more accustomed to the use of digital devices and interaction with brands. Although some people still need to see and feel products on international catwalks and fairs (Hägg and Preiholt, 2006), the digital age offers possibilities that are beginning to influence the marketing of luxury goods and, therefore the trends of marketing strategies in mass-market fashion.

Digital marketing strategies in fashion retailing, through communication by social networks, websites, bloggers, or influencers, are essential to innovate in the ways to interact with consumers, and in the design of the communication and distribution systems. Brands need to reinvent their marketing and business strategies to adapt to and approach emerging markets of consumers who are eager to consume fashion (González-Romo and Plaza-Romero, 2017), generating customized responses to users to create motivating experiences during their online shopping process (Lorenzo-Romero and Constantinides, 2019). Firms are investing considerable resources in developing online engagement platforms that allow high levels of interactivity with customers and create brand equity, for example, the interactive NikeID platform which allows customers to co-design their shoes (Ramaswamy and Ozcan, 2016).

Following the opportunities that online channels provide to firms for managing online co-creation encounters, interest has grown in investigating the processes of online co-creation. However, the literature is still scarce and fragmented with some conceptual papers that develop frameworks and research propositions (e.g., Ramaswamy and Ozcan, 2016; Zwass, 2010) and a few empirical papers that draw on existing theories to develop research models.

Among those empirical papers, the ones referring to retail co-creation experience are very scarce (e.g. Anaza, 2014; Frasset-Deltoro, Alarcón-del-Amo and Lorenzo-Romero, 2019; Gebauer et al., 2013). The limited literature in this field has not investigated the heterogeneity among online co-creators through a segmentation approach. A segmentation study is useful for both fashion retailers and consumers, as it allows to offer customized products that increase engagement and satisfaction with the brand.

Purpose

Based on the limited knowledge of on-line co-creation behaviour in the retail sector, this study takes a segmentation approach that allows examining the diversity of behaviours. Thus, the general objective of this paper is to analyse the heterogeneity of co-creator's behaviours in the online retail environment. This study examines different indicators that determine the co-creation behaviour by users (i.e., co-creation values and activities, engagement with the company/brand, satisfaction with the co-creation process, intention to continue co-creating), in the Spanish fashion sector, to segment fashion retail co-creating customers. The findings will offer to fashion retailers, an interesting perspective for attracting customers in co-creation ventures during the fashion online shopping process

Conceptual framework

In light of this situation within the fashion industry, companies focus on the joint creation of personalized experiences as an appropriate strategy for achieving sustainability and meeting basic human needs (López-Navarro and Lozano-Gómez, 2014). The term co-creation, coined by Prahalad and Ramaswamy (2004), represents a new philosophy about the customers to whom marketing strategies are aimed. It refers to the process by which products, services, and experiences are developed jointly by companies and their stakeholders, opening up a new world of value. Customers, as an essential group of stakeholders, and the company are closely committed to creating truly unique and rewarding value propositions. Co-creative fashion firms aim to foster emotional ties between customers, brands, and garments through the development of positive and meaningful experiences by appealing to values such as transparency, respect, or social and environmental responsibility. Thus, within the strategy of experience co-creation, value creation does not only derive from the company's internal activities (Ramaswamy, 2011).

The increased digitalization and the adoption of omnichannel strategies by firms (Verhoef et al., 2015) empower consumers, at the same time that enable mass and multifaceted co-creation (Zhang et al., 2017). Customer co-creation behaviours are easier to perform online than offline and are particularly stimulated through the use of social network sites (Wu et al., 2017).

Methodology

This research was carried out based on an online questionnaire aimed at active online co-creators in the fashion retail sector in Spain. The survey was managed by a market research institute that had access to an online panel. The individuals were asked to answer the questions about the retailer they co-created with most recently, which they could choose from an extensive list of retailers or else write a valid name. The final sample size was 400 individuals.

The measures for the constructs used in our study were mainly scales validated in previous online co-creation studies: co-creation value (Yi and Gong, 2013), co-creation activities (Nysveen and Pedersen, 2014; Constantinides, Brünik and Lorenzo, 2015), engagement

(Blasco-Arcas, Hernandez-Ortega and Jimenez-Martinez, 2014; Medlin and Green, 2003; Sprott, Czellar and Spangenberg, 2009); satisfaction (Navarré, Mafé and Blas, 2010; Oliver, 1980), intention to continue co-creating (Blasco et al., 2014). All items were measured on Likert scales of seven points, where 1=completely disagree, and 7=completely agree.

We first applied confirmatory factor analysis (CFA) using EQS software, to test the validity and reliability of the constructs. A latent segmentation methodology using Latent Gold 4.5[®] statistical software was used to define the segments and profile the individuals. The factor scores created during this process were used as variables (indicators) to develop a cluster analysis based on the variables measured as continuous variables.

The advantage of latent class models is that they permit the incorporation of variables with different measurement scales (continuous, ordinal or nominal). In addition, the models can usually incorporate independent variables that are used to describe (rather than to define or measure) the latent classes. These exogenous variables are known as covariates (Vermunt and Magidson, 2005). We analyzed gender, age, level of education, work situation, marital status, and income as covariates to profile co-creators in the fashion retail sector.

Findings

In applying the latent segmentation approach, the first step consists of selecting the optimum number of segments. Our model estimated from one (no heterogeneity existed) up to eight segments. The model fit was evaluated according to the Bayesian Information Criterion (BIC) that allows the identification of the model with the least number of classes that best fit the data. The lowest BIC value was considered as the best model indicator. The best solution was the obtention of three different groups of co-creators, as the BIC was minimized in this case. The statistic values indicate that the model has a good fit, because the entropy statistic (Es) and R^2 is close to 1. For all the indicators, a significant p-value associated with the Wald statistics was obtained, confirming that each indicator discriminates between the clusters in a significant way (Vermunt and Magidson, 2005).

The profiles of the three clusters are based on the average score of the indicators and their size. We named the clusters according to their profile: The cluster named “co-creators oriented to the company/brand” includes 42.47% of co-innovators; the “full-co-creators” segment includes 33.25% of co-innovators, and the “co-creators oriented to others” segment includes 24.29% of co-innovators.

In order to refine the resulting segments and provide more information about their characteristics, we analyzed different descriptive variables -or covariates- that could be related to co-creation behaviours of users. Specifically, gender, age, level of education, work situation, marital status, and income. Independence tests associated with statistic Wald conclude that significant differences ($\geq 95\%$ confidence level) exist between the segments for the variables of age, education, and marital status. Regarding gender, all clusters display balanced participation of men and women.

Based on the average score of each segment in each of the indicators and providing the socio-demographic characteristics of each cluster, a detailed description of each segment is provided next.

Firstly, the “co-creator oriented to the company/brand” segment shows higher mean in co-creation value CV-personal interactions with the company (5.2890) and CV-information interchange with the company (5.0656) as co-creation values. High means in CV-responsible behaviour (4.9825) and CV-business advocacy (4.8506) also show co-creation behaviours of this cluster focused on the brand. Regarding co-creation activities (CA), CA-direct co-participation with the company (2.8485), compared with the CA-co-participation with other

people (2.4975) also indicate, although with less intensity, a co-creation behaviour of this segment oriented to the company. In this segment, the engagement towards the company/brand (5.0258) is higher than the satisfaction with the co-creation process (4.6604) and intention to continue co-creating (4.3634). This cluster is the largest in the sample (42.47%) and is mainly made up of consumers between 41 and 65 years old (45%), with a university degree (44%), singles and married in similar proportion (35 and 39%, respectively). In comparison with the other clusters, the “co-creator oriented to the company/brand” segment shows the highest percentage of people with medium age (41-65 years old) and the lowest percentage of young people (18-25 years old).

Secondly, the “full-cocreator” cluster has the highest scores in all co-creation behaviours (i.e. co-creation values, co-creation activities, engagement, satisfaction and continuing actively co-creating). This segment shows the highest means (more than 6 points) in CV-personal interactions with the company (6.2609), CV-business advocacy (6.1166), and CV-feedback with the company/brand (6.0254). Related to co-creation activities for this segment, the comparison between CA-direct co-co-participation with the company (3.7973) and CA-co-participation with other people (3.0903) indicates that co-creators become more involved with the brand in their co-creation activities. “Full co-creators” show lower scores in satisfaction with the co-creation process (5.9665) and to intention to continue co-creating (5.9572) than engagement with the brand (6.6401). This segment is mainly made up of married consumers (48%) between 41 and 65 years old (44%), and holding a university degree (43).

Thirdly, the “co-creator oriented to others” cluster shows higher mean values in CV-help to other people (5.2032) and CV-search for information with other people -remember 1 strongly disagree, 7 strongly agree- respect to co-creation values. Regarding co-creation activities, CA-direct co-participation with the company (1.7593), compared with the CA-co-participation with other people (3.1634), also indicates that the co-creation behaviour of this segment is oriented to others. In this segment, as the main difference versus the others, engagement with the brand (4.0998) has a lower score than satisfaction with the co-creation process (4.5072) and the intention to continue co-creating in the future (4.5143). The profile of this cluster is composed of younger people than other segments (37% are 26-40 years old, and 38% are 41-65 years old), with university degrees (43%), and mainly married (44%).

As main differences between clusters, the “full co-creator” shows harder co-creation behaviours in all indicator variables (i.e., factors about co-creation values, co-creation activities, engagement with the brand, satisfaction with the co-creation process, and intention to continue co-creating). Moreover, this co-creator profile has a behaviour oriented to the company with more intensity than oriented to the other people (even higher than scores of “co-creator oriented to the brand” segment). However, the scores toward co-creation behaviours to other people are higher than the “co-creator oriented to other people” cluster. Young people are more oriented to co-create with other people and older people are more oriented to co-create with the company during their co-creation process. “Co-creators oriented to the company/brand” segment shows a lower percentage of co-creators in professional school, as level of education, than “co-creator oriented to other people” cluster. On the other hand, single people are oriented to co-create with the company in higher proportion than the other two clusters. In contrast, married people are “oriented to co-create with other people” in higher percentage than the other groups (although near “full co-creator” segment”).

Original/value

This paper investigates online co-creation behaviour in fashion retailing through a segmentation approach. Co-creation activities through social media are increasingly used by retailers to build customer engagement and loyalty, but research on this field is still limited. Our study investigated online co-creation behaviours related to a specific company/brand, combining personal characteristics to obtain different co-creators profiles. This information could be useful for fashion retailers to motivate different segments of users to participate actively in co-creation activities. It could improve the online experience in the fashion retailer and, in consequence, increase the sales offering different products adapted to different obtained segments.

As main limitations, we have found the following ones. Difficulty in finding a valid sample fulfilling the specific requirements (fashion online cocreators) due to only 21% of Spanish fashion online buyers are co-creators with brands (INE 2018). Some scarcity of literature directly related to this line of research on segmentation in emerging markets of co-creators. Moreover, our study has analysed only one country, as the possible comparison of several leading countries in the fashion industry, such as the UK or Italy would provide more information.

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Keywords

Co-creation values and activities, Engagement, Satisfaction, Users latent profile, Fashion retailing sector in Spain.

Acknowledgement

This work was financed by the Spanish Ministry of Science, Innovation and Universities, Spanish State Research Agency (Research Grant ECO 2017-83051-R).

DOES EMOTIONAL LABOUR MATTER IN CUSTOMER-SERVICE ROBOT INTERACTIONS?

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Introduction & Purpose

Service robots can interact, communicate, and deliver service to customers and are predicted to replace human service employees in many industries (Wirtz *et al.*, 2018; Mende *et al.*, 2019). Up to now, more than 25,000 humanoid “Pepper” and “NAO” robots have been sold worldwide (SoftBank, 2019). Humanoid service robots are said to be “easy to relate thanks to their human-like mannerisms and emotions (Bloomberg, 2017). However, it has also been acknowledged that service robots “are unlikely to be a source of competitive advantage” (p. 910), while service employees are and continue to be such a source (Wirtz *et al.*, 2018).

Service employees play a key role in developing and maintaining customer relationships (Houston III *et al.*, 2018). The manner in which service employees face customers accounts for more than 40% of the customers’ reconsideration of their purchase intentions in the store (Court *et al.*, 2009). Many service organizations usually employ explicit or implicit emotional display rules, that is, norms and standards of behaviour that suggest which emotions are appropriate within a service interaction and thus should be publicly expressed toward customers (Groth *et al.*, 2009). Emotional labour (with deep acting and surface acting strategies) refers to this emotion management (Hochschild, 1983). Service employees can reveal emotions not only through facial cues but also through other behavioural channels (e.g., the tone of their voice) (Houston III *et al.*, 2018). Similarly, service robots can express emotions through verbal and non-verbal signals (e.g., facial expressions) (Wirtz *et al.*, 2018; Stock and Nguyen, 2019).

Research has raised the question whether service robot behaviours (e.g., emotional display, gestures) influence customers’ perception of the service (De Keyser *et al.*, 2019). Service robots are programmed to display certain emotions and behaviours to customers. Depending on the details and lavishness of the programming, customers might perceive a difference in the genuineness with which emotional display behaviour is transmitted.

Thus, the questions arise whether customers *perceive* a service robot as apparently more deep acting than surface acting and whether deep and surface acting perceptions differ for interactions with human service employees and humanoid service robots. Moreover, the

question arises whether customers' gender has an impact on these evaluations since women have been found to be more receptive to emotional communication (Mattila *et al.*, 2003).

Literature Review

Consumers' Reactions to Humanoid Service Robots in Retail and Service Sectors

Stock and Merkle (2018) focus on how consumers perceive innovative cues (i.e., the extent to which a service representative creates new ideas and solutions for the customer) shown by either a human service employee or a humanoid service robot. In their experimental study, they find that consumers show positive responses in the form of delight to a service robot's innovative behaviour. However, consumers who face the innovative acting service robot are not significantly more satisfied than consumers who face the neutral, but friendly and professionally acting human service employee. Thus, compared to human service employees, customers' reactions are less positive for service robots.

Merkle (2019), on the contrary, finds that consumers rate the satisfaction with a humanoid service robot as comparably high as with a human service employee when the service is considered as appropriate and no service failure occurred. When faced with a service failure, consumers also rated their satisfaction level higher within the customer-robot interaction than within the customer-employee interaction, indicating that consumers forgive humanoid service robots more than human service employees.

van Pinxteren *et al.* (2019) identifies anthropomorphism (i.e., the tendency to assign human characteristics to inanimate objects) as an antecedent to trust in humanoid service robots. This finding has, however, to be evaluated in more detail since Mende *et al.*'s (2019) results indicate that robots that highly resemble humans in their appearance can have a negative effect on consumers' evaluations. When interacting with humanoid service robots, Mende *et al.* (2019) find that consumers display compensatory responses (e.g., buying status goods in a retail context, eating more in a restaurant context) compared to consumer-employee interactions because consumers feel discomfort when interacting with a service robot.

Up to now, consumers' reactions to humanoid service robots have not been largely examined. Moreover, there is – to the best of our knowledge – no research study that investigates how consumers perceive and react to different emotional labour strategies within service interactions with service robots compared to human service employees.

Emotional Labour

Hochschild (1983, p. 7) originally defined emotional labour as the “management of feeling to create a publicly observable facial and bodily display.” Service employees regulate their emotions and emotional expressions to satisfy organizational display rules (e.g., “service with a smile”) within a service encounter. Deep and surface acting are two emotional labour strategies that service employees use to comply with these corporate rules (Hochschild, 1983). When employees truly feel the expressed emotions and thus make the effort to either create the emotions within themselves (“exhorting feelings”) or to evoke thoughts, images, and memories (“trained imagination”), they use deep acting (Hochschild, 1983). When they fake the displayed emotions, shape and work only on their outward appearance to fit the situation, they perform surface acting (e.g., Grandey 2003; Hennig-Thurau *et al.*, 2006). These regulatory strategies differ in the degree of genuineness or authenticity of the displayed emotions. The emotions displayed in deep acting have been found to be perceived as more authentic compared to surface acting emotions (Grandey *et al.*, 2005). Moreover, it has been found that deep acting is linked to more favourable customer outcomes (e.g., service quality perceptions) (Hennig-Thurau *et al.*, 2006; Groth *et al.*, 2009). As to gender reactions to emotional displays, Mattila *et al.* (2003) show that women focus more on the emotional

displays than men because women are more process-oriented and men more outcome-oriented.

Hypotheses

At the moment, robots cannot feel real emotions and engage in deep acting (Wirtz et al., 2018), but they can be programmed in such a way that customers might perceive a difference in the genuineness with which emotional display behaviour is transmitted and consequently *perceive* a service robot as apparently more deep acting than surface acting (H1). Research on service robots assumes that “customers are unlikely to respond to robot-displayed emotions as they would to [...] emotions from human frontline employees” (Wirtz et al., 2018, p. 911). Thus, customers’ reactions to deep and surface acting are more positive within a service employee interaction than a service robot interaction (H2). Since women are believed to be more emotional and focus more on the emotional display (Mattila et al. 2003), it can be further hypothesized that women (in contrast to men) do not perceive a difference between surface and deep acting within a service robot interaction (H3).

Design/methodology/approach

The hypotheses were tested through an online experiment. For the main experiment, a usable set of 179 consumers (mean age = 30.4; 52.5% male) was recruited to take part in the study. A 2 (service agent: human service employee vs. humanoid service robot) x 2 (emotional labour: deep acting vs. surface acting) between-subjects factorial design was employed where participants were randomly assigned to one of the four scenarios. In the end, 88 (91) participants were in the human service employee (humanoid service robot) condition. Regarding emotional labour, 96 (83) were in the deep acting (surface acting) condition.

Each participant received a short scenario and a questionnaire. The scenario described a service interaction situation, and participants were instructed to read the scenario and put themselves into the described situation. The service agent was manipulated in such a way that s/he was described as either being a human service employee or a humanoid service robot (Merkle, 2019). Emotional labour was manipulated by (1) following the procedure by Houston III et al. (2018) who focused on authenticity and described the displayed emotions of a service employee as genuine (e.g., warm smile, a broad genuine smile) or not genuine (e.g., puts on a big smile) in scenarios and (2) by considering the emotional labour literature. The scenarios were pretested with 50 participants in a marketing graduate course (mean age = 23.3; 22.0% male). The results of the pre-test revealed that the chosen manipulation was successful.

Findings

In the main experiment, the manipulations were successful. 90% (74%) of the participants in the human (robot) scenario successfully recognized a service employee (service robot) as the service agent. Customer perceptions of deep and surface was measured on 7-point scales (with 7=highly agree) by Groth et al. (2009). The deep acting condition was perceived as deep acting ($M_{DA}=6.69$, $M_{SA}=4.81$; $F(1, 177) = 27.81$, $p < .01$) and the surface acting condition was perceived as surface acting ($M_{DA}=3.74$, $M_{SA}=5.12$; $F(1, 177) = 35.91$, $p < .01$) by the participants. Moreover, deep acting was perceived to be more authentic than surface acting ($M_{DA}=4.43$, $M_{SA}=3.23$; $F(1, 177) = 29.75$, $p < .01$; Hennig-Thurau et al. 2006).

For the group of participants who faced the service robot, an ANOVA was performed with perceptions of deep acting and service acting as dependent variables. Consumers who interacted with the service robot perceived the deep acting robot as more deep acting ($M_{DA}=5.37$, $M_{SA}=4.36$; $F(1, 89) = 4.12$, $p < .05$) and the surface acting robot as more surface

acting ($M_{DA}=4.42$, $M_{SA}=5.29$; $F(1, 89) = 8.20$, $p < .01$). Thus, consumers perceived a difference in genuineness that is associated with the two emotional labour strategies for customer-service robot interactions. Thus, H1 is supported.

We performed two more ANOVAs with loyalty intentions as the dependent variable. Perceived competence of the service agent, consumers' affinity for technology interaction, and consumers' ability to put themselves into the situation were controlled for. For the group who faced the deep acting strategy, the effect of a human employee on loyalty intentions was higher than of a service robot ($M_H=6.08$, $M_R=4.87$; $F(1, 91) = 7.79$, $p < .01$). For the group who faced the surface acting strategy, the same effect held ($M_H = 5.32$, $M_R = 4.31$; $F(1, 78) = 3.80$, $p < .01$). Thus, H2 is supported.

Another ANOVA was conducted with loyalty intentions as dependent variable and the manipulations of the service agent and emotional labour as well as gender and their interactions as independent variables. The same controls were used. The results revealed a main effect of service agent and emotional labour on loyalty intentions. In particular, human service employees had a stronger impact on loyalty intentions than service robots ($M_H=5.74$, $M_R=4.60$; $F(1, 168) = 13.00$, $p < .01$) and deep acting had a stronger effect on loyalty intentions than surface acting ($M_{DA}=5.49$, $M_{SA}=4.79$; $F(1, 168) = 5.53$, $p < .01$). Interestingly, there was also a three-way interaction between service agent, emotional labour, and gender ($F(1, 168) = 3.00$, $p < .10$). For women who interacted with a human service employee, deep acting had a stronger influence on loyalty intentions than surface acting ($M_{DA}=6.39$, $M_{SA}=5.54$; $F(1, 31) = 3.71$, $p < .10$). However when women interacted with a service robot, there was no significant difference between the impact of deep and surface acting ($M_{DA}=4.65$, $M_{SA}=4.60$; $F(1, 44) = .07$, $p > .10$), suggesting that they do not respond differently to various degrees of emotional behaviours of robots. As to men, for both human and robot interactions, there was a significant difference. Thus, H3 is supported.

Original/value

The study is the first to investigate whether and how consumers perceive and react to different emotional labour strategies within service interactions with service robots compared to human service employees.

Practical implications

Retailers that think about using humanoid service robots have to keep in mind that customers respond to human service employees more positively than to service robots. Thus, service robots should be seen as supporting the service employees than as replacing them. Moreover, women react differently to various degrees of emotional behaviours of robots than men, suggesting that robots should be programmed in such a way to best appeal to female and male customers.

Social implications

Using service robots in order to support human service employees seems to be beneficial. However, this development might make retailers hire fewer human service employees because robots take over more and more service roles.

Research limitations

A scenario approach was used in the experimental study. Further research might employ images or even videos as stimuli material to provide a more realistic setting.

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Keywords

Service robots, Service employees, Emotional labour, Customer perception, Experimental study

IMPULSE BUYING AND E-GROCERY: A CONCEPTUAL MODEL

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Introduction

The growing penetration of digital technologies and mobile devices is transforming individuals' life in every aspect, from the way people communicate to the design of the shopping cycle they face, from the information seeking to the purchase itself. The boundaries between online and offline environment are just crossed.

The phenomenon of e-commerce in the Italian context is expected to show a growth rate of 7,3% in the period 2020-2024. The market's largest segment is Electronics & Media, while Food and Personal Care sector represents the 12% of the market value in 2020 (Statista).

With the growing acceptance of the Internet among the population and the rapid growth of multi-channel sales, consumers are constantly exposed to marketing stimuli that seek to stimulate impulse buying. For example, the web is an alternative channel to stimulate impulse purchases and allows the consumer to buy during his free time, offering shopping opportunities 24 hours a day and seven days a week, anywhere (Phau & Lo, 2004).

Consumers often act impulsively when making online decisions. In fact, the 40 percent of online purchases can be defined on impulse. This is triggered by easy access to products, ease of purchase (just a click to order) and absence of social pressures and efforts (Jeffrey & Hodge, 2007).

So what about e-grocery? How consumers behave when they buy food products online? Is the phenomenon of impulse buying still present online? If yes, to what extent? In the literature, many studies have identified the variables affecting impulse buying during the physical grocery shopping trip (Beatty & Elizabeth Ferrell, 1998; Bhakat & Muruganantham, 2013; Hultén & Vanyushyn, 2011). Prior research on impulse buying in grocery sector found its antecedents in three main categories which include both endogenous and exogenous variables: individual characteristics (Weun, 1998); product category variables and type of food consumed (Inman et al., 2009; Jones et al., 2003; Mishra et al., 2012) and situational factors (Beatty & Elizabeth Ferrell, 1998; Belk, 1975).

Other studies have focused their attention on developing models in order to understand the impulse buying behaviour also online, but mainly in sectors other than the grocery one, like fashion or electronics and media (Jeffrey & Hodge, 2007). Thus, the present work, by combining the theory of offline impulse buying in the grocery sector and online impulse buying, intends to measure the phenomenon of impulse buying in the e-grocery context.

Conceptual framework

Online shopping frees consumers from the restrictions that occur in offline shopping, increasing the chances of the adoption of impulsive behaviours (Chan et al., 2017). Thus, it is reasonable to think that this can also occur while people look for food products. Many researchers have identified two main types of variables: endogenous and exogenous. The endogenous ones focus directly on the individual, examining the personal characteristics that push him to implement impulsive purchasing behaviour. These factors concern the personality of consumers, their inner tendency to behave impulsively, emotional states and socio-demographic factors (Kacen & Lee, 2002).

On the other hand, the exogenous variables refer to marketing stimuli that aim to influence the urge to buy impulsively and then consumer's actual purchasing behaviour (Dawson & Kim, 2009). In particular, different authors have found in website design, assortment, price, website usability, money and time spent online as antecedents of impulse buying.

Specifically, Jeffrey and Hodge (Jeffrey & Hodge, 2007) studied the influence of the amount of money spent by consumers on the likelihood that consumers would purchase a product impulsively. The results of a logistic regression analysis have shown a significant effect: the higher the amount spent, the higher the amount of purchases made on impulse. Similarly, the more time spent browsing on the website looking for food products, the more purchases are made impulsively. This is because the possibility to see more products could increase the probability to buy something not planned before (Buttle, 1984).

Furthermore, also the products offered, the prices and how the website is designed could influence the way customers browse the web and consequently the urge to buy impulsively and then the impulsive behaviour. Researchers speak of level of attractiveness of the assortment, in terms of perception of the assortment size, adequacy of the value for money of the products offered, the average level of price, presence of price-cut, consistency with consumer's interest (Newman, 2015). The amount of purchases made impulsively increases when customers have a positive perception and attitude towards assortment and price.

In the same way, also perceived ease experienced while visiting the online store has an impact on shopping behaviour. Specifically, it has been found that a positive evaluation of the site's usability, including ease of use, and the design of the website, arouse positive emotions and this leads to a positive impact on impulse buying behaviour (Éthier et al., 2006).

Finally, a great importance must be given to the device through which customers make their shopping. Many studies have, in fact, found that the touch interfaces can change consumer behaviour (Brasel & Gips, 2014). However, according to the authors' knowledge, no clear evidences are given about the effect on impulse buying behaviour in the grocery setting.

Purpose

Given all the above considerations, the present work wants to measure the phenomenon of impulse buying in the e-grocery sector. In doing so, we have combined the models already tested in the literature. In particular we took into consideration the impulse buying models in the grocery sector (offline purchases) and the models in the online environment (not specifically tested for food products). Furthermore, we wanted to test the impact of the device (mobile vs computer) on shoppers impulsivity.

Design/methodology/approach

In order to meet our goal, we conducted an experiment in a laboratory setting. We divided a sample of 122 participants (80% female, 25 average age) into two homogeneous groups for each of the devices considered (mobile and computer). Then, we asked them to fill in a brief questionnaire about their shopping habits, socio-demographic characteristics and their diet and to draw up a shopping list imagining to recreate a real shopping experience. Then, they were invited to browse the online shopping page of a leading Italian chain using the mobile app or the website. After the online grocery shopping they were asked to express an opinion about their experience and their perception about the assortment, the price, the site design and the site usability and the urge felt by participant to buy impulsively during the shopping. Then, we took note of the total amount and the time spent for the purchases. Finally, we measured the impulse buying comparing the basket of each participant with the shopping list drafted at the beginning of the experiment. All the data has been analyzed using SmartPLS package and a model has been proposed.

Findings

Looking at the results of the of the structural equation model we found that the site design influences the way customers browse the web and have a positive impact on impulsive purchases. On the contrary, we found a negative relationship between site usability and browsing. We found no relationship between assortment and price perception on browsing and impulse buying. Furthermore, we found a positive impact of money spent on impulse buying, while we found no effect of the time spent for the shopping. Finally, concerning the device, we found that participants experienced more impulsive purchases when the shop using a computer rather than using the mobile app.

Originality/value

The present work is the first attempt to analyze and measure the phenomenon of impulse buying behaviour in the e-grocery sector and the role of the device on the shopping experience.

Managerial implications

These results could help retailers to better understand how consumers behave when they shop online and to develop different marketing strategies based on the device used.

Research limitations

The limitations of the present work are connected with the sample size, not really representative of a larger population since we considered the website/app of a single Italian retailer. Finally, we conducted our measures in a laboratory setting and not considering real situations.

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IMPULSIVE AND COMPULSIVE PURCHASE IN THE DIGITAL MOBILE ENVIRONMENT

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The suggestions of the reviewers:

-Reviewers' 1 :This research presents a quantitative future research. The aim of the study is analyzing the use of smartphones and impulsive/compulsive purchasing behaviors. terms potentially related in a theoretical model addressed to identify relationships between the smartphone use as a purchase channel. It considers a lot of variables and there are two main dependent ones: impulsive and compulsive purchase.

Motivations is a variable not defined. It needs to specify its role before presenting criteria or indicators.

-Reviewers' 2: I commend the authors for taking on this research. However, it needs much improvement in different sections. Firstly, this study is not new in the field, as authors have claimed it to be the first one. Secondly, there is lack of over-arching theoretical framework which guide the flow of the study. In result, the constructs

selected for study looks random and scattered with no logical inter-connection. Secondly, authors need to go through the recent literature to justify their study novelty and significance. Here are some suggestive piece of research which may help the authors to improve their work (1- Understanding Compulsive Buying Behavior of Mobile Shoppers for Fashion Products- 2019- by Gulandom Aminjonova, 2- How do product recommendations affect impulse buying? An empirical study on WeChat social commerce- 2018 by Yanhong Chen, 3- Factors Affecting Online Impulse Buying: Evidence from Chinese Social Commerce Environment- 2018- by Umair Akram, 4- Understanding impulse buying in mobile commerce: An investigation into hedonic and utilitarian browsing- 2019 by Xiabing Zheng, 5- What drives impulse buying behaviors in a mobile auction? The perspective of the Stimulus-Organism-Response model- 2018 by Chia Chen). ”

ABSTRACT

Mobile commerce (m-commerce) is growing steadily all over the world, introducing substantial changes in the way people buy, and potentially affecting consumption habits. The present study focuses on the investigation of the behavioral dimensions of impulsive buying through hedonic/utilitarian set of motivations within the mobile shopping environment. Impulsive buying accounts for a significant part of sells in the retail sector. Past studies point out that m-commerce would increase consumers' impulse buying behavior. The objective of the research consists in analyzing the effect and correlation of exposure to smartphone functions with the development of impulsive and eventually compulsive purchases among young people within a cross-cultural perspective. To achieve this objective a model is designed in order to identify the relationships between the smartphone use as a purchase channel and hedonic/utilitarian motivations mediated by a set of situational factors that are commonly found in mobile digital platforms. This model construct is designed to examine the impact of seven technological factors that are related to the impulse/inhibition of making unplanned purchases in mobile environment through hedonic/utilitarian motivations: 1) Comparators, Price & Product Information; 2) Serendipity; 3) Mobile payment; 4) Brand awareness and involvement; 5) eWOM and online peer recommendations; 6) Big Data and profile-targeted advertising; 7) SNS image activity and personal photographs. Next, comparative empirical data are obtained in a cross-cultural perspective study in order to identify variations in motivations and the related factors between young consumers in Spain, France and China. The materials and method are described to include both qualitative and quantitative data from Focus Group and Survey.

Keywords: m-commerce, retail, consumer behavior, impulsive/compulsive, cross-cultural

EXTENDED ABSTRACT

Introduction

The adoption of smartphones and permanent connectivity on the Internet is a technological factor with great social, economic and cultural implications. To take advantage of the commercial potential of this mobile ecosystem, companies and retailers develop functional tools that enhance the use of mobile commerce (m-commerce) and transform smartphone into a ubiquitous purchase device. Consumption habits are greatly influenced by the technological environment, channels and tools available to proceed to the purchasing act. Smartphones currently represent the largest-scale technology used by commerce (GSM, 2019). The commercial use of smartphone also implies multi and cross channel strategies and shopping behavior, especially important for the future of retailing.

Justification

The use of smartphones entails the rapid change in the organization of retailing (Maity & Dass, 2014; Parker & Wang, 2016). Commercial offer from companies and purchasing acts from customers can be made ubiquitous through online access, everywhere, at any time and any place. It is fundamental to analyze possible relationships between smartphone use and impulses in the purchase decision process and the level of control over consumer habits. As it was historically the case for television sales channels and advertising for example, technological innovations can rise impulsive buying and contribute to the development of compulsive behaviors, especially when combined with factors of enhancing personal appearance or social image (Lee, Lennon & Rudd, 2000).

The study of impulsive behavior is crucial from the point of view of retailers, because it can explain a very significant part of product sales, especially in some sectors such as fashion (Bayley & Nancarrow, 1998; Dhurup, 2014). In addition, studies indicate that consumers themselves do not consider this behavior as intrinsically bad or harmful even though they may regret some purchases (Hausman, 2000).

Smartphones are powerful communication tools, enhanced by a vast possibility of complementary applications (Apps) with great commercial implications for retailers. For consumers, smartphones make the process of finding information about products, purchase and acquisition faster, less time consuming and less effort consuming. Furthermore, the desire to possess material goods and the proliferation of stimuli through technological platforms and projection of personal image in social media are suspected to create favorable conditions for the development of impulsive and/or compulsive purchasing acts (Chung, Song & Lee, 2017; Aragoncillo & Orus, 2018). Bravo (2019) cites the example of people buying clothes just for the purpose of sharing photos on Instagram. Social networks (SNS) are used to enhance the personal image and can mediate an increase in impulse purchases (Deters, Mehl & Eid, 2014). More broadly, digital environment provides a set of functions and stimuli used in e-retailers' sales promotion strategy with the goal to create impulsive responses from consumers (Dawson & Kim, 2010; Lo, Lin & Hsu, 2016),

Therefore, it is very likely that this new technological device could influence the development of impulsive and compulsive behaviors in consumers during their purchase process in both online and offline retail channel. The better understanding of this influence is important both for retailers and academic researchers. To date there are few studies investigating the relationship between the use of smartphones and impulsive and compulsive purchasing behavior, and none is oriented at a cross-cultural perspective in order to identify possible variations in the cultural background of users that could determine situational factors.

In order to contribute to fill the gaps in research in this area, new studies should focus on the influence of the use of smartphone devices on the incidence of lack of control in shopping behaviors taking into account cultural identity and a set of situational factors related to the use of mobile technology.

Theoretical Framework

Impulsive buying is a complex phenomenon that, during the last decades, is mainly analyzed from the point of view of the consumer behavior and its situational and cognitive context, rather than the mere characteristics of products. As Hausman

(2000, p.43) points out, impulsive buying “accounts for a substantial volume of the goods sold every year across a broad range of product categories”.

From the point of view of the psychiatric literature, compulsive buying behavior is considered an addictive disorder that is diagnosed based on a clinical form (APA, 2012). The damage caused to oneself or to others as a symptom is taken into consideration. However, as pointed out by Ridgway, Kukar-Kinney & Monroe (2008), there are many people who suffer from a compulsive behavior that is underlying, not diagnosed, and that is reflected in attitudes of lack of impulse control purchase. In addition, the financial statement indicator is not valid for people who have high incomes. Consequently, they propose a scale of measurement of compulsive buying behaviors for people who are not diagnosed with psychiatric disorder. This can serve as a research basis from the perspective of consumer’s behavior in different contexts, coupled with items referring to the motivations of buying and the facilitating/inhibiting factors. In the marketing literature, this approach is considered valid and effective, and had been used in several previous investigations (He, Kukar-Kinney & Ridgway, 2018; Horváth & Adigüzel, 2018). From this point of view, impulsive buying can be considered a precursor of compulsive buying when it comes to the factor of repetition (Park, Kim & Cardona, 2006).

The act of purchase is described as a constructive process driven by motivation (Hausman, 2000; Solomon, 2018; Zheng et al. 2019). Consumers evaluate a set of internal factors (their needs, their desires, their cultural profile, etc.) and external factors (the extent of the offer, the price, the efforts necessary to make the purchase through the channel, etc.) in order to establish purchasing habits and self-regulation mechanisms. These are consolidated through shopping routines. When consumer behavior is out of the patterns of self-regulated habits then impulsive purchases appear. When impulsive purchases are repeated regularly, and are perceived as a pressing need on the part of the consumer, it can be described as a compulsive behavior. The consolidation of this type of behavior can lead to serious financial problems and a failure to manage personal life goals in the long term (Dittmar, 2004).

For the present study, following previous literature (Hausman, 2000; Lo, Lin & Hsu, 2016; Akram et al 2018; He, Kukar-Kinney & Ridgway, 2018; Zheng et al. 2019), we consider that motivation shopping includes two main dimensions: hedonic

shopping motivation and utilitarian shopping motivation, each one influenced by several determinant factors. In fact, “most typologies consider instrumental and hedonic motivations as fundamental to understanding consumer shopping behavior because they maintain a basic underlying presence across consumption phenomena” (Childers et al., 2001, p.513).

In previous studies, the relationship between the impulsive buying and smartphone use as a purchase channel has been analyzed from different theoretical perspectives: the Signaling Theory (Chen et al. 2019), pointing out that smartphones functions are conveying informational cues that facilitate the decision-making; the Stimulus-Organism-Response (S-O-R) model, with a measurement of hedonic motivations triggered by external and situational factors (Chang, Eckamn & Yan, 2011; Chen & Yao, 2018); the cognitive decision-making process, conceptualized into the Engel, Kollat, and Blackwell model (EKB model) (Lo, Lin & Hsu, 2016). Some studies don't use a specific theoretical foundation and propose to study the impulsive buying from an empiric and behavioral perspective, in social media platforms, applying a model with different dimensions related hedonic shopping values and situational factors (Akram et al. 2019), or based on the measurement of materialistic values from consumers (Aminjonova & Jun, 2019).

Fort the present study, in order to research the relationship between use of smartphone devices and impulsive/compulsive purchases, we use a motivation model based in seven constructs identified in the literature review a technological and situational factors: 1) Comparators, Price & Product Information; 2) Serendipity; 3) Mobile payment; 4) Brand awareness and involvement; 5) eWOM and online peer recommendations; 6) Big Data and profile-targeted advertising; 7) SNS image activity and personal photographs (All detailed in “Research Model” section).

Research objective

The general objective of the research work consists in analyzing the effect and correlation of exposure to mobile phone internet functions with the development of impulsive and compulsive purchases among young people. Comparative empirical data are obtained in a cross-cultural perspective with consumers in China, France and Spain. The model construct is designed to over-ach several dimensions

Consumer behavior is a particularly complex reality since it is influenced by a great variety of internal factors (personality, personal characteristics, perceived needs, tastes, etc.), external factors (channels, access, efforts, price, etc.) and social circumstances (Solomon, 2018; Aminjonova & Jun, 2019). For this study, we are particularly interested in an external factor that is the availability of a smartphone to make purchases and to what extent it can affect the purchasing process in retailer channels, the degree of planning and the level of self-control for consumers, in relation to the type of motivation.

Research model

To achieve the objective, a model is proposed based on hedonic motivations and utilitarian motivations. These two groups of motivations constitute two different but interrelated poles in the model: the utilitarian set of motivations is mainly based on rational considerations and behavior planning. On the other hand, the hedonistic set of motivations is mainly based on emotional-type evaluations and pleasure oriented experiences, with a reduced planning margin. An act of purchase is influenced by a combination of the factors belonging to these two poles (Childers et al. 2001; O'Brien, 2010; Parker & Wang, 2016; Zheng et al. 2019). The proposed model is based on a scale to measure hedonic and utilitarian motivations associated to seven situational factors commonly found in mobile commerce environment. These seven factors are described as follow and outlined in Figure 1:

- **Comparator (Price & Product Information):** services and platforms that allow consumers to perform searches and price comparisons (Cliquet et al. 2014, 2015).
- **Serendipity:** it refers to the product information that reaches the Internet user while not looking for it (Chung, Song & Lee, 2017).
- **Mobile payment:** the development of mobile payment methods affects both electronic commerce and purchases made in physical stores (Garrett et al. 2014).
- **Brand awareness and involvement:** basically defined as the level of consumer consciousness of a company, this concept extends to personal adhesion to the

values and brand image of commercial products (Van Doorn et al. 2010; Liu et al. 2017).

- eWOM: the word-of-mouth is a powerful vector for recommending products since it is based on the personal experience of a community of peer consumers review, affecting decision process both in online and offline retailer channels (Goldsmith & Horowitz, 2010; Matute, Polo & Utrillas, 2015).
- Big Data: the data obtained from the activity of the users on the Internet allows sending personalized advertising according to their profile, about products matching the tastes and personal preferences, incrementing the opportunities of exposure to serendipity and optimizing the information research by the consumer (Valls, 2017).
- SNS image and personal photographs: the social network platforms are mediating the construction of the personal image and its projection towards the rest of society, and can be a motivation for buying products in order to share photographs and enhance social prestige (Yu & Ye, 2013; Aragoncillo & Orus, 2018).

Hypotheses

In order to analyze the effect and correlation of use to smartphone devices with the development of impulsive/compulsive purchases among young people in China, Spain and France a total of nine hypotheses are stated:

H1: Impulsive and compulsive behaviors are differentiated by the factor of repetition and frequency (Kwak et al. 2006; Park, Kim & Cardona, 2006), not taking into account harm to the self or to others for retailer marketing focused research.

H2: Utilitarian motivations through greater amount information available, and prices comparison, can also influence the development of impulsive and compulsive buying because of access to a larger offer of bargains matching the interest of consumer (Yu & Ye, 2013).

H3: The availability of mobile payment can reduce the time between decision making and effective payment of the product, aside from the absence of tangible representation of money given away, as in credit card payment, reducing margin of self-control (Park & Burns, 2006; Garrett et al. 2014) both in offline and online retailing platforms.

H4: Recommendations and satisfactory experiences reviews of the products from other consumers (eWOM) can increase the impulse of buying (Yu & Ye, 2013; Matute, Polo-Redondo & Utrillas, 2015; Erkan & Evans, 2016), both from utilitarian and hedonic perspectives.

H5: Application of Big Data strategies form advertisers can facilitate purchase without planning and with a reduced margin of self-control, due to more personalized recommendations and advertising (Valls, 2017), both from utilitarian and hedonic perspectives.

H6: Personal and identity adhesion to a commercial brand (Brand awareness) can be an impulsive and compulsive buying factor, mediating a greater emotional motivation when buying products of this particular brand (Khorrami, Esfidani & Delavari, 2015; Lee & Workman, 2015) and increasing trust.

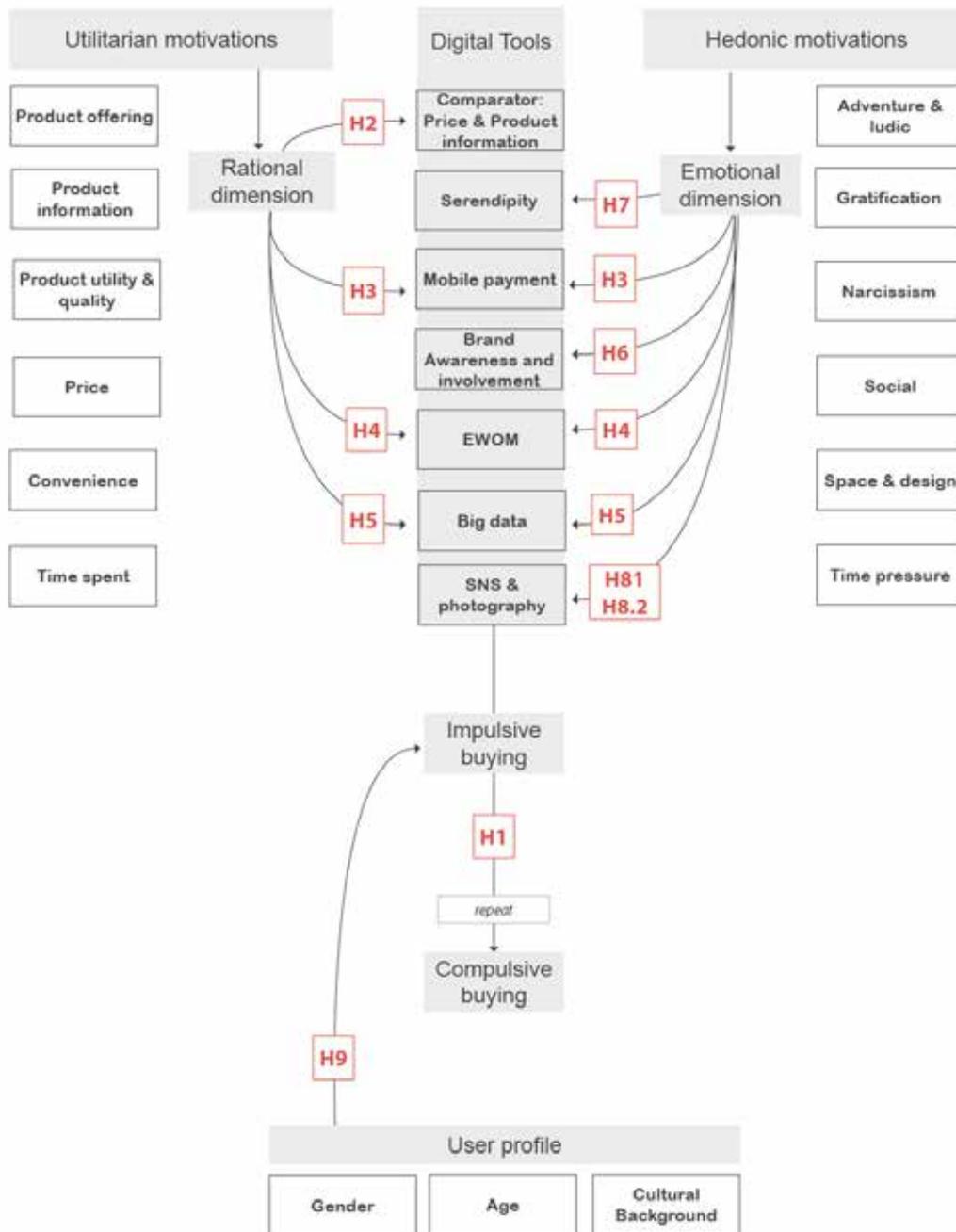
H7: A greater time spent on the Internet has a correlation with impulse buying acts, through the serendipity factor (spontaneous information that reaches users when they surf the Internet) (Chung, Song & Lee, 2017).

H8.1: The construction of the image and the personal identity through high visibility on internet social networks (SNS) can have correlation with the development of impulse buying behaviors (Aragoncillo & Orus, 2018).

H8.2: There is a correlation between the tendency to send personal photographs in SNS and the development of impulse buying behaviors (Bravo, 2019).

H9: There is an influence of sociocultural contexts in the development of impulsive and compulsive traits in consumption (Horváth, Adigüzel & Herk, 2013).

Figure 1: Research model



Field work

Due to the complexity of the factors that intervene into the model, the Fieldwork is developed in two stages. First obtaining qualitative data collection through focus groups and then quantitative data collection based on questionnaire survey. The two research data collection methods are performed with samples of young consumers in China, France and Spain, applying a cross-cultural perspective to point out possible differences in consumer behavior between western Europe countries (Spain, France) and China, an emergent country that currently is leader in global m-commerce (Stern, 2019). Cross-country comparison can be performed to get a better understanding and determining the influence of cultural underlying factors in compulsive/impulsive consumer behavior research (Horváth, Adigüzel & Herk, 2013; Baker et al. 2014).

The sociodemographic criterion to define the study population is firstly belonging to the segment of 'young people'. The young people are usually intense users of mobile technology and are the main target for m-commerce applications (Zhang et al. 2002; Zhang et al. 2013). For the present study, young people are considered with biological and social criteria: they are between 18 and 30 years old and they are not married. Since the study is carried out in a culturally mixed environment, we chose to define a fairly broad biological age segment (up to 30 years old) but retaining a criterion of sociocultural behavior typical of a stage of life in which sociocultural identity is still in the process of construction (the fact of not being married yet).

Qualitative study

The method of focus group is based on obtaining a structured discourse attributable to a social segment, thanks to the dynamics of the discussion among the participants selected on their profile and delimited according to social typology criteria. From the review of the literature on compulsive/impulsive shopping behavior, three typological criteria are selected for the preparation of focus groups: 1) gender, 2) the source of income, 3) to be or not an expert in fashion. Focus groups are used at the stage of designing the quantitative measurement instrument (the questionnaire) to improve the definition of the variables and the formulation of the questions for the measure instrument. We currently have done the first focus group session held in

Spain last month. The results of qualitative data will allow us to adjust the model and questionnaire, simplifying some of the constructs.

Quantitative Study

The measurement instrument includes different variables, organized in six constructs and grouped in dimensions, as summarized in the following table.

Table 1: Constructs of the models

Construct	Variable dimension group	Number of items
Compulsive and impulsive buying	Obsessive Compulsive buying	4
	Impulsive buying	5
Utilitarian motivations	Information collection	2
	Buying process	3
	Success belief	3
Hedonic motivations	Gratification seeking	2
	Idea shopping	2
	Adventure seeking	2
	Social shopping	2
	Role play	2
	Value shopping	2
	Success belief	2
Brand Loyalty	Brand Loyalty in digital environment	7
Internet mobile phone use	Use of mobile phone applications (APP) and social networks	4
	Use of Mobile Payment	2
	Use and confidence in eWoM	2
	Exposure to serendipity	2

Use of photographs in the mobile phone	Photographs as a mechanism of personal projection, social model and acquiring fame in the digital environment (precursors of Narcissism)	7
Sociocultural context and background	Sociocultural and demographic characteristics	4

The constructs will be adjusted, and eventually modified, according to the results of qualitative data obtained from focus groups.

In order to carry out intercultural studies based on surveys, it is necessary to follow a procedure to ensure the reliability of the translation of the questionnaire so that the questions do not change direction or registration between languages (Brislin, 1986; He, Kukar-Kinney & Ridway, 2018).

The results obtained from the survey are analyzed with descriptive and analytical statistical tools in SPSS package. To determine the relationship between the different constructs of the model, and thus verify the hypotheses, a structural equation modeling is used (Partial Least Squares based Structural Equation Modeling approach).

Conclusion

Impulsive purchases represent a very significant part of sales in the retail sector. Our study responds to a business interest in understanding the factors that can explain unplanned purchasing decisions, based on the study of consumer motivations and their relationship with specific situational factors in the mobile digital environment. This project is aimed at deepening the understanding of the relationship between the use of smartphone as commerce channel and the factors inherent to this new technology which can influence hedonistic and utilitarian motivations that lead to impulsive purchasing decisions.

The materials and method from the discussion groups and the survey will provide data to understand the various situational factors that are distinctive of m-commerce and emerge as facilitators or inhibitors stimuli during the act of purchase, from a

multicultural perspective, also analyzing the potential risk of uncontrolled repetition of impulsive behaviors that could be linked to harmful compulsive habits. The multicultural approach will allow us to understand the influence of cultural conditions and differences between European countries and China. Our study can benefit retailers and e-retailers by providing a better understanding of the factors underlying the consumers' impulse buying while using smartphone.

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“HOW CAN DIGITALIZATION MITIGATE PANDEMIC-INDUCED DEMAND SHOCKS? A CASE STUDY FROM THE FAST FASHION INDUSTRY”

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Digitalization is one of the most relevant global processes of our time that includes many aspects of everyday life, and also transforms retail. Regardless of their digitalization maturity, most companies and organizations were caught off guard by the current CoViD-19 pandemic, that rattled and is still rattling many businesses.

In our paper we investigate how digital solutions can help mitigate this situation and what digitalization approaches seem to be more important to prepare for these kind of events in the future. We focus our attention to the fast fashion segment of retail and look at a Hungarian subsidiary of a global fast fashion company as a case study to formulate our conclusions.

Based on our current experience, digitalization can play a role in this effort. In a lockdown phase, when physical movements and activities are severely limited, online sales channels seem to be the only viable way to continue business at a lower scale. Hence it is imperative that more businesses create an online presence if they do not want to lose their customers in a pandemic-induced demand shock. This requires well-established back-end digital solutions. Digitalization can also be helpful in the opening up phase, when certain front-end, in-store solutions can improve business results.

POP-UP RETAIL AND ITS PATTERNS – DEVELOPING A DATA BASED FRAMEWORK FOR DIGITIZING THE PROCESS ACCORDING TO THE 3P IMPETUS

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The paper validates and defines Pop-up Retail Patterns based upon a literature review and a validation through qualitative research, namely in-depth interviews with pop-up retailers in Switzerland. Pop-up Retail Patterns cluster location needs of particular Pop-up Retailers dependent on their branch, core motivation, and their customer focus. We conducted 17 interviews with Pop-up Retailers having run their retail projects between 2018 and 2019 in Swiss towns St.Gallen and Zurich. We were able to identify three valid Retail Patterns: Market Testing, Outlet/Sales, and Brand Experience among three of overall 9 clusters of Merchant Categories. We defined these Merchant chain categories according to their generic location needs and types of customers shopping behaviors (e.g. experience shopping vs weekly one-stop shopping) based upon a literature review. Based on the findings of the undertaken qualitative research we used location-based data from Open Street Map to investigate the importance of the structure of the nearest store neighbors (400m x 400m) by using route distancing. We stated the hypothesis that dependent on the particular Retail Pattern location choice is determined beside footfall's quantity and structure, by the structure of space opportunity's nearest neighbors. Within our sample of qualitative and quantitative data, mainly location-based data we were able to point out interdependencies, which seem to be generalizable at least for covered cities Zurich and St.Gallen. Currently, we are enhancing our data basis and derive supervised machine learning models to make predictions and recommendations for location choice in pop-up retail based on given retail profiles and patterns.

Introduction

Lifecycles and dwell times of brick-and-mortar shops are decreasing, the challenge of no-line retail is rising and indeed the dynamic of retail's digital transformation is pacing up. Flexible retail is key. Pop-up retail seems to be the most important part of Flexible Retail. Pop-up Retailers' rising is reflecting new and even more complex customer journeys and the need for integrated and seamless customer experiences (e.g. Childs et al. 2019). Furthermore, it is underlining the need for enabling customers' experiences through visiting on-site stores. In an operations' view, it is necessary to adapt the traditional process like the location choice and planning towards the new deal of flexible retail. The paper is reflecting the first step towards developing an AI-based tool for digitizing and self-automating the location choice process of Pop-up Retail.

Purpose*

Facing the facts and characteristics of pop-up shops being undertaken for one day up to four or five months, traditional methods of location choice are not proper anymore. There is a need for digitizing the process through stringent use of location data and pop-up user habits and needs, we call them Pop-Up Retail Patterns (RePats).

We stick to the idea of digitizing the location choice process from "cradle-to-grave". According to the well-known phrase of 3-P: Profile-Pattern-Predict! (see figure 1). So we may state the following research question:

RQ1: Is it possible to digitize and optimize the process of location choice of Pop-Up Retailers through developing an AI-Tool matching location-data based KPI (ReLocS) and retailers' needs derived from merchant category related retail patterns (RePatS) being mainly determined by retailer's core motivation such a transaction or communication and its merchant category origin.

Concerning the step of Profiling, we did a qualitative assessment of pop-up retailers in Switzerland for their characteristics, location measures, goals, and habits. Based upon a literature review we identified three Retail Patterns among nine merchant (chain) category clusters (MCC¹). We enhanced our findings with experts' knowledge and analysis of underlying location data, mainly the retail industry structure from Open Street Map. So the next step to take will be mainstreaming our data basis regarding two aspects: firstly, we have to enlarge our sample of investigated Pop-up retail projects and secondly, we have to broaden our data analysis to transactional, demographics and pedestrian traffic data.

¹ We used Merchant Category codes according to ISO 18245:2003 Retail financial services – merchant category code, and clustered particular, complementary merchants.

Design/methodology/approach*

In our study, we used a mixed-methods approach consisting of qualitative and quantitative instruments (see figure 2). Through that combination of inductive based qualitative and deductive-driven based data analysis, we were able to gain a holistic view on Pop-up retail.

Based upon a literature review and bibliometric analysis, we were conducting in-depth interviews with Pop-up retailers to find out their motivations, success drivers, and characteristics of their pop-up shop project like bottom-line results and time of duration. We were able to identify three generic Retail Patterns being valid for Pop-up Shops. We contextualized these Patterns within nine merchant chain clusters, e.g. one cluster consisting of fashion, shoe and likewise retailers.

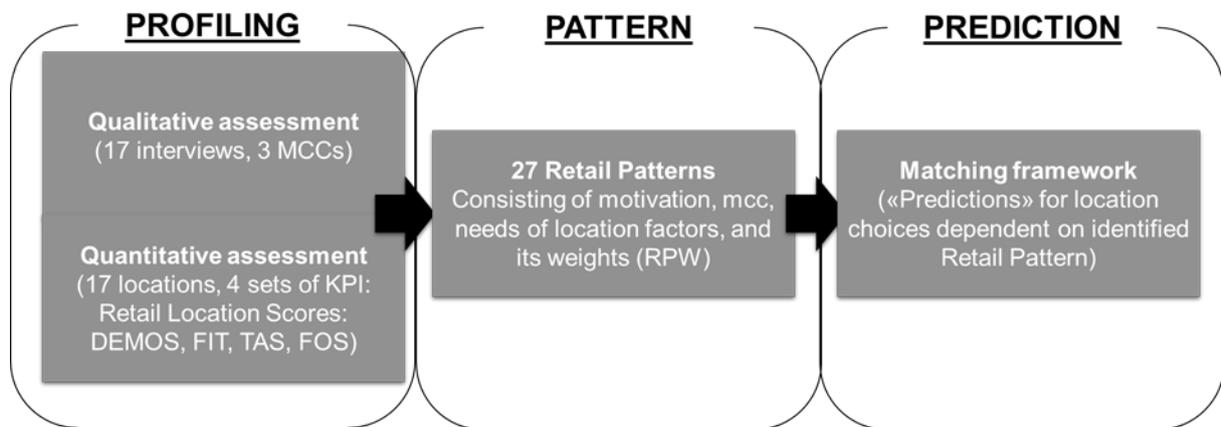


Figure 1: Approach for developing our matching framework (Source: own)

In the first step, the types found whilst literature review were clustered as patterns featuring characteristics, goals, and found location necessities. In a second step, the characterizing properties and features of these types are revised. If necessary, additional characteristics are added which are mentioned in the empirically collected material and which are decisive for the type formation (Kuckartz, 2018). Subsequently, the coding of the collected material took place. This coding was done by using a category system. In a fourth step, the coded data were used to assign cases (17) to patterns. Subsequently, the relationships between types are analyzed to highlight any similarities and clear differences between the types. Finally, patterns formed from the research were double-checked with the patterns from the literature and validated. This explains whether the practice corresponds to the current literature and theory or whether there are differences. End of the day, we were able to validate three retail patterns (see table 1).

Table 1: Found location factors, characteristics, and habits from qualitative research (own)

Characteristics and KPI	Brand Experience	Market Testing	Outlet and Sales
Core Motivation	Communication	Testing of product, market, category	Sales
Further Motivation	Sales	Brand awareness (Communication)	Communication
In-store events	Regularly	Rare	No events
Seize of category	Small	Small, focus on customers (data)	Medium
Necessity and quantity of Storing room	Small one	No need	Medium to big one
Primary Location needs	Central place Footfall	Central place Footfall	Central place Footfall
Branch structure	Density of competitors is positive	Density of competitors is negative	Density of competitors is positive
Typical endurance	1 week to 5 months	1 to 4 months	2 weeks to 3 months

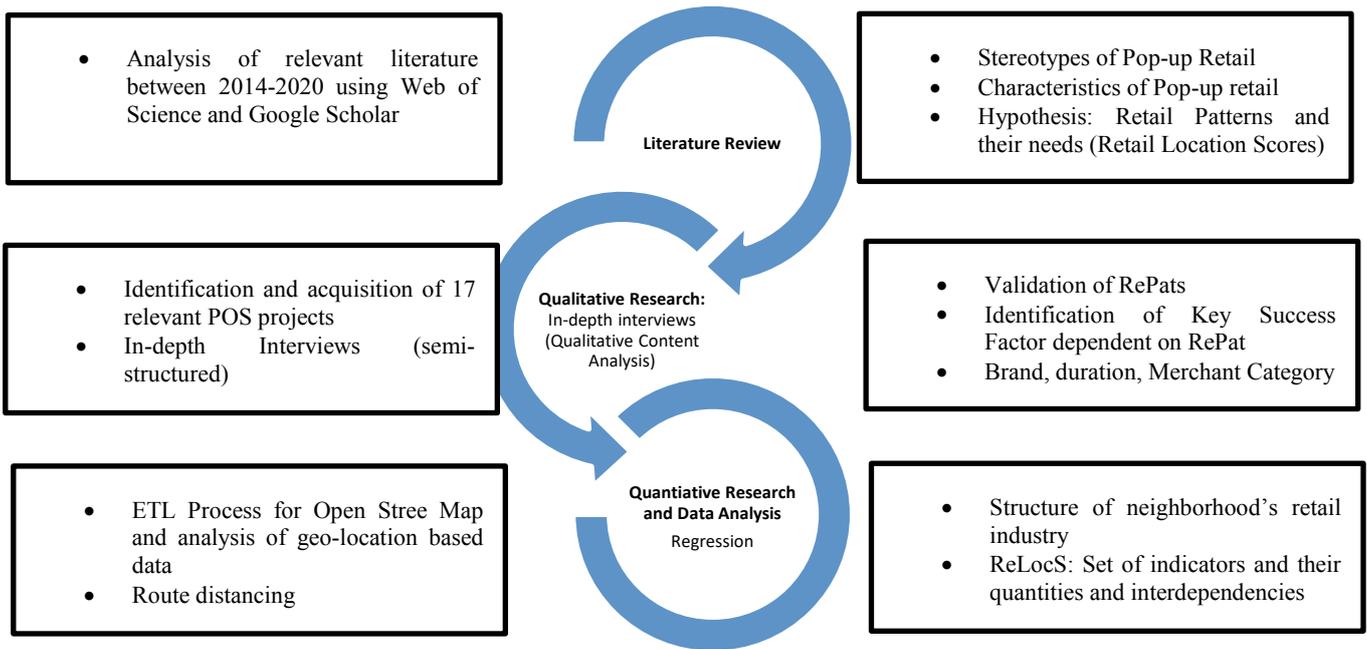


Figure 2: Mixed-methods research design (Source: own)

Quantitative modelling of pattern specific location quality invokes the setup of a robust and comprehensive data pipeline. To be more precise, we define Retail Location Scores (ReLocS) derived from various data sources, that quantify the feasibility of a given location for a specific retail pattern. The data sources are heterogeneous and currently consist of

- Location data of existing shops, restaurants, etc. from OpenStreetMap (OSM)
- Graph data of the city road network from OSM
- Federal demographic data such as population density, age distribution, the proportion of the workforce, proportion of commuters, etc.
- Public transportation data of train, tramway, and urban bus lines.
- Selected cross-section measurements of pedestrians using radar devices
- Generic transactional data ("Sales of merchants") from a business data broker

Quality, granularity, and availability of the data sources vary heavily both within a given city (e.g. St. Gallen) and from city to city (St. Gallen and Zürich). To get a concise database for defining ReLocS we use a data warehouse architecture (Kimball and Ross 2002) and have developed ETL processes that transform the heterogeneous data sources to a location-dependent feature vector.



Figure 3. Examples of a Retail Location Score: Shop density of two different merchant clusters in the city of St. Gallen (Source: own).

Comprehensive Findings*

In contrast to common literature, we were not able to validate more than three Pop-up Retail Patterns (Surchi 2011; Schüller/Jud 2018; Warnaby/Shi 2018; Picot-Coupey 2014; Rudkowski et al 2019 (in particular table 2); and Bethan et al 2018 give an overview). What we empirically found are three different generic Retail Patterns.

As these RePats are being determined mainly by each core motivation being part of sales, testing, and communication we investigated four sets of ReLocS:

- Footfall and its structure
- Transactional intensity ("Sales overall") and transactional intensity of comprehensive category as well as competitors' sales
- Demographics
- Branch structure reflecting buyers' behavior (e. g. figure 3)

Figure 4 shows our OLAP model as the basis of our matching framework.

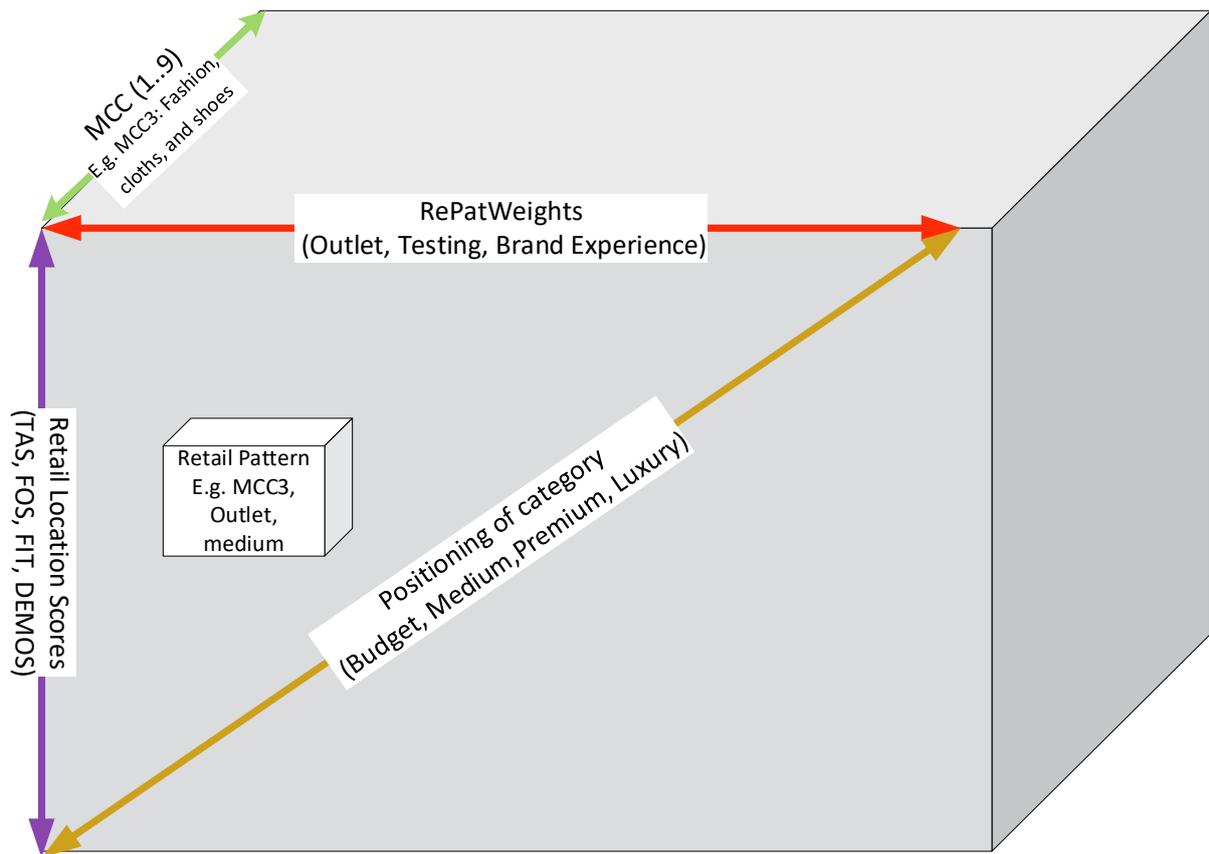


Figure 4: OLAP Model of Matching Framework (Source: own)

For the operationalization of that RePats, it is necessary to customize them concerning their merchant cluster. So the importance of the particular ReLocS on location choice is affected by the impact of the generic retail patterns and the retailers MCC. Combining this we see 27 Retail Patterns (3 generic Patterns in 9 MCC).

It is not surprising, footfall and its structure being overall the most important ReLocS (likewise Bethan et al. 2019). But the specific weights and quantities are different depending on the specific retail pattern, we call it Retail Patterns' weights (RPW, see figure 5).

Original/value*

These provided results represent a first step towards a more sophisticated reflection on pop-up retail in manners of automatization and digitization of location choice. It is giving an outline of profiles, patterns, and a foresight of a likewise prediction. Through using a mixed-methods approach consisting of qualitative research (interviews and contents analysis) and a quantitative approach of geo-data analysis it enables to comprehensive view on pop-up retail location decisions. Our next step, beside broadening our quantity of items will be integrating more data sources and categories, mainly transactional data and metrics of footfall and its structure at investigated locations.

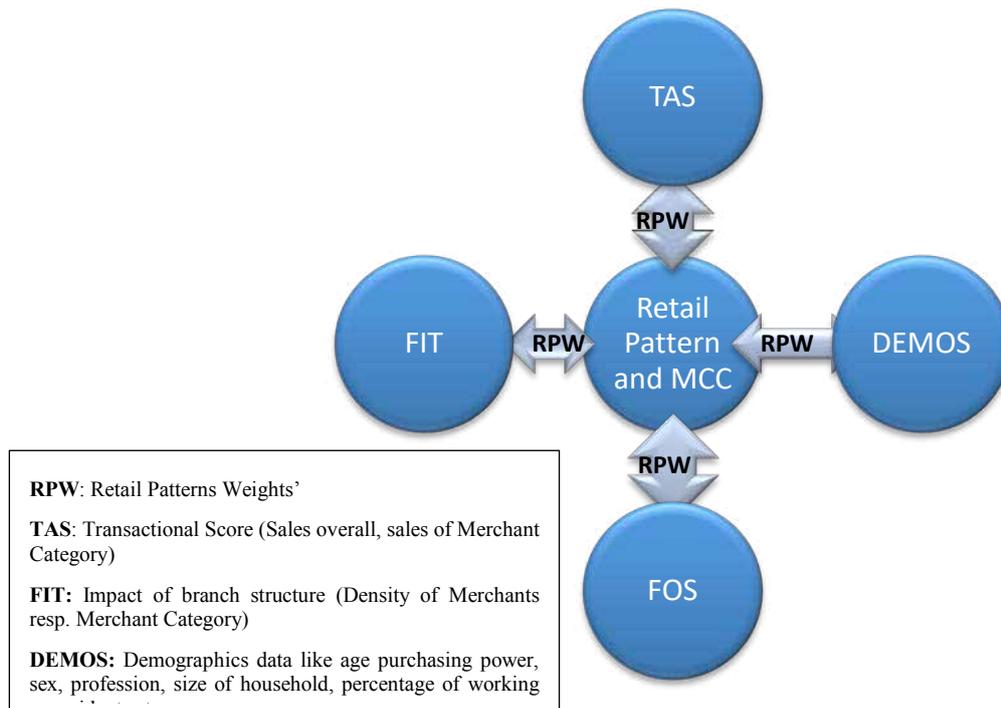


Figure 5: Framework of Perfect Match in Pop-Up Retail (Source: own)

Research limitations and outlook

Reflecting on the results, we have to take into account them being just dealing as a first, prototyping step towards the digitization of the location choice process of pop-up retail through using the 3-P impetus. What became clear is the existence of retail patterns, focussing in contrast to traditional stores on mainly one core function. But it is not only about showrooming (e.g. Haas/Schmid 2014) or outlet retail, there is also a pattern targeting on experiencing markets and customers. Of course, our sample is quite small and it is limited to Switzerland. But our approach is suitable for mainstreaming it. Through applying data analysis of underlying location data we were able to find interdependencies of location and a set of necessities to fulfill regarding ReLocS. So, in our first sample we see that specific Retail Patterns (e.g. "Brand Experience of MCC 3 (Fashion, cloths, and shoes)") imply certain quantities regarding branch fit, demographics, footfall, and transactional quantities. In our sample, there were clear interdependencies. Our next step is to enhance our data basis and to assess quite more pop-up retail projects to prove if these findings can be mainstreamed and part of a generic logic.

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References to other publications must be in Harvard style and carefully checked for completeness, accuracy, and consistency. For more details please see <https://cerr.sciencesconf.org/resource/page/id/3>.

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Appendix

Keywords*

Pop-up, AI, retail, retail location choice, retail patterns, flexible retail, retail as a service, ephemeral retail, mixed-method.

THE COMPETITIVE ADVANTAGE OF MULTI-PLATFORM-BASED ECOSYSTEM: THE EVIDENCE FROM ALIBABA

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Introduction

In the past two decades, the landscape of global market had experienced tremendous momentum due to emerging multinational corporations which adopted platforms and ecosystems as business models, for instance GAFA (Google, Apple, Facebook, Amazon) in the United States and BAT (Baidu, Alibaba, Tencent) in China. Given this profound phenomenon, many scholars predicted the focus of future competition among firms will shift toward platform or ecosystem (Moore *et al.*, 1997; Tiwana *et al.*, 2010; Eisenmann *et al.*, 2011; Sussan & Acs, 2017). Meanwhile, platforms or ecosystems have also emerged as a prevailing research theme. For instance, in international business, the issue has been analyzed from various perspectives, including innovation, governance, and entrepreneurship, and has accumulated a large body of research (Moore, 1993; Gawer & Cusumano, 2002; Evans, 2003; Tiwana & Bush, 2010; William & De Meyer, 2012; Adner & Kapoor, 2013; Hagi, 2013; Sussan & Acs, 2017; Jacobides *et al.*, 2018). Despite great contribution of prior literature, the understanding of platforms or ecosystems still remain under-developed. For example, the ecosystem deploying multiple platforms simultaneously, namely Multi-platform-based (MPB) ecosystem has been overlooked so far. Moreover, there is also a lack of research that examines the ecosystem's competitive advantage from a strategic point of view. In particular, the question of how the platform or ecosystem is built and how companies gain competitive advantage through it remains unclear. Furthermore, as identified by many researchers, there is still lack of empirical research.

Purpose

By the given gap in the current literature, this study aims to offer depth insights of competitive advantages of multiplatform-based ecosystem through case study of Alibaba, which is regarded as one of the most successful and powerful multinational corporations globally. There are several significant ecosystems simultaneously within Alibaba Group, including Fintech, logistics, entertainment, and cloud computing. This study, concentrated on its Fintech ecosystem, will dedicate to contribution insights for the following research questions:

- What is the development process of Alibaba's multi-platform-based ecosystem?

- Who are the participants of the MPB ecosystem?
- What is the mechanism through which the firm has gained competitive advantage?

Conceptual framework

The extant related research has been organized as follow.

Platform and Ecosystem Moore (1993) firstly applied the biological term ecosystem into business research. Since then, the concept has been widely accepted in academia. Although the exact definition varies from one scholar to another, they all agree that the ecosystem members are interacting with each other and they are interdependent for a successful business. Jacobides *et al.* (2018) categorized existing ecosystem research into three streams: a “*business ecosystem*” approach, an “*innovation ecosystem*” approach, and a “*platform ecosystem*” approach which this study will adopt. The term of platform in this study is an interface embedded in product, service or technology that mediates transactions between different groups of users (Evans, 2003; Hagiu, 2013; Rochet & Tirole, 2003). Alternatively, it is also a building block that serves as a foundation on which other companies can build related products or services (Gawer & Cusumano, 2002). Moreover, the ecosystem refers to the platform and its network of complementors that produce complements to enhance platform value (Gawer & Cusumano, 2008; Adner & Kappoor, 2010; Ceccagnoli *et al.*, 2012).

Ecosystem Participants, Roles and Interactions The participants of the ecosystem can be broadly classified into three categories: focal firm, customer, and complementor (Williamson & De Meyer, 2012; Jacobides *et al.*, 2018). Among these, the focal firm acts as the ecosystem designer that decides on the rules which include not only technological elements such as architecture, standards and interfaces but also managerial issues including value proposition, incentive and governance (Williamson & De Meyer, 2012; Alexy *et al.*, 2013; Cenamo & Santalo, 2013; Teece & Lindne, 2017; Jacobides, *et al.*, 2018).

Multisidedness is identified as the most important feature of platforms and ecosystems (Rochet & Tirole, 2003; Hagui & Wright, 2015; Armstrong, 2006; Parker & Van Alstyne, 2005). Therefore, in such a multi-sided market that the ecosystem has developed, the customer could be multi-agency, for example both sellers and buyers, rather than final customer only (Hagiu & Wright, 2015).

Complementor is also referred to as partner company (Williammson & De Meyer, 2012), that is, a company or an individual that provides complementary product or service (Williammson & De Meyer, 2012). Meanwhile, complementors are also important source to foster innovation for the ecosystem (Jacobides *et al.*, 2018). Furthermore, according to Williammson & De Meyer (2012), complementors can also be considered as “market makers” who create business demand and bring its existing customers to ecosystem.

Thus, ecosystem represents a wholly new organizational form compared to the existing organizations and creates new inter-organizational relationships among participants (Gawer & Cusumano, 2002; Hagiu & Wright, 2015; Jacobides *et al.*, 2018; Riasanow *et al.*, 2019).

Ecosystem Competitive Advantage Existing research had addressed the following aspects related to ecosystem’s competitive advantage: user envelopment and winner-take-all effect,

value co-creation and acquisition, cost reduction, high flexibility and co-learning capability, high open innovation capability and empowerment.

Methodology

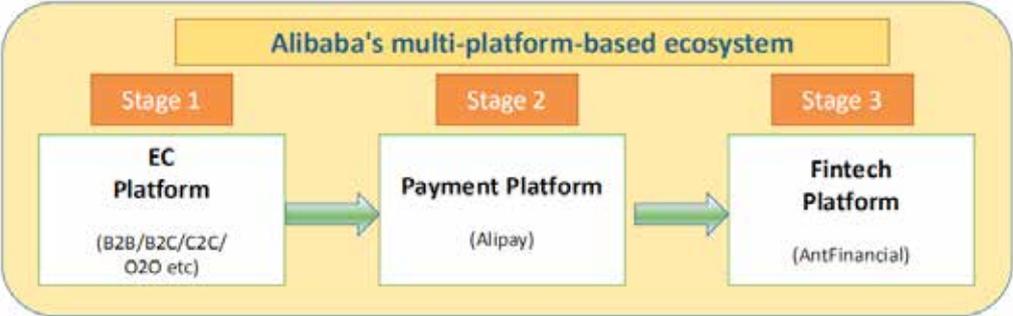
As discussed, the understanding in relation to competitive advantages of multiplatform-based ecosystem is still insufficient. An interpretivist qualitative single case study is therefore regarded to be the most appropriate methodology for this study, aiming to understand ‘*how*’ and ‘*why*’ research questions, especially for an emerging market phenomenon (Yin, 2018). The Alibaba group was selected as the case company due to two reasons. First is that it is widely regarded as one of the few e-commerce giants globally up to date. The second is that it is one of the pioneers which have adopted multiplatform-based ecosystem business model.

The primary data were collected through extended semi-structured executive interviews with key senior management responsible for the firm’s EC and Fintech operations. The secondary data were obtained from company annual reports, official websites and other marketing reports published by reputable organizations. The multiple source of information allowed triangulation to strengthen the validity and reliability of the analysis as well as to minimize the possibility of bias. Eventually, the qualitative data was analyzed using thematic analysis, which developed common themes.

Research Findings

Through examining the development process of Alibaba's multiple-platform-based ecosystem, it is revealed that Alibaba’s ecosystem has gradually evolved from a single EC platform to a bundle of heterogeneous platforms that also provide various Fintech services (Figure 1).

Figure 1: Alibaba’s multi-platform-based ecosystem



Within the ecosystem, EC platform (stage 1) acts as the core platform to attract and lock-in customers, while payment platform (stage 2) serves as a supportive platform to provide payment and escrow services, and the derivative Fintech platform (stage 3) provides more wide-ranged and high valued financial services. The latter two platforms act as the main profit

center for the whole ecosystem. In doing so, a significant synergy effect has been created among these three platforms.

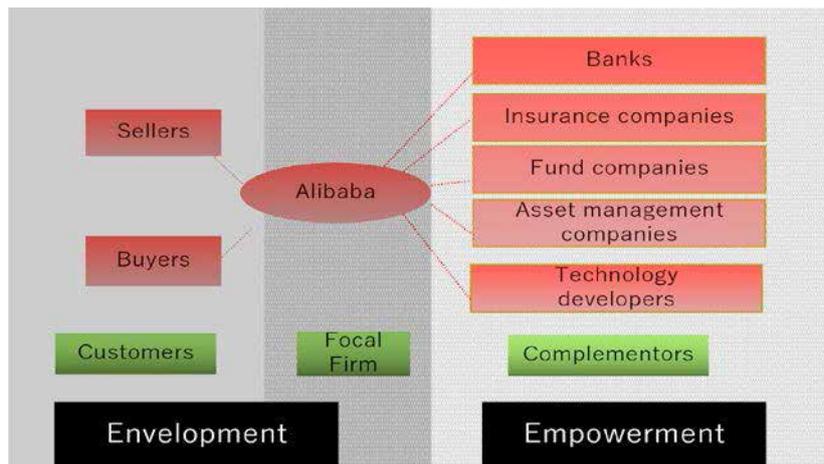
The study also identified that the participants and their roles and functions of the Alibaba’s ecosystem. In its MPS ecosystem, Alibaba acts as the platform sponsor and the focal firm, who is providing services and creating values for its ecosystem’s customers, including both sellers and buyers of EC business. Many firms such as financial companies especially banks, and technology providers join the ecosystem as complementors. Table 1 below demonstrated the benefits enjoyed by the participants within the ecosystem.

Table 1: The advantages that the participants have obtained from ecosystem

Focal firm (Alibaba)	Customers (sellers and buyers)	Complementors (various financial companies and technology developers)
<ul style="list-style-type: none"> -Less investment and cost reduction -Value co-creation -Open innovations opportunities -Quick expansion into heterogenous business -Enhanced learning capability -Differentiation -Winner-take-all effect -High agility and flexibility 	<ul style="list-style-type: none"> -Middle and long-tail customers included and well served -Search cost reduction -Transaction cost reduction -Value co-creation -Excellent shopping experience (low-cost, convenience) -Availability of wide-ranged financial services -Customized marketing 	<ul style="list-style-type: none"> -Direct access to customers -Cost reduction -More open innovation opportunities -More business chances

Moreover, this paper examined how Alibaba had created the competitive advantage through its MPB ecosystem. Two mechanisms, *the customer envelopment* and *the complementor empowerment*, are identified and defined. The customer envelopment enables Alibaba to quickly expand into different businesses by taking advantages of the overlapping user bases and to enjoy the winner-take-all effect in the marketplace. Meanwhile, by getting more complemtors on board and empowering them, Alibaba has enhanced its innovation capability which is considered to eventually optimize its value creation process and strengthen the customer envelopment (Figure 2).

Figure 2: The mechanisms of MPS ecosystem to build competitive advantage



Value

By shedding light on the MPS ecosystem, a research object ignored by the extant research, this study has revealed how it has been developed and through which mechanism to build competitive advantage. In doing so, this study has extended depth insights on the ecosystem and contributed to the theory-development.

Practical implications

This study has valuable managerial implications for both standalone and ecosystem firms. For standalone firms, this study has suggested, to win the battle with ecosystem, they need to develop innovative product or service to destroy the customer envelopment. For firms deploying ecosystem strategy, the study implies the importance to design a sophisticated business model to make profit and to strengthen the customer envelopment and the complementor empowerment effects.

Research limitations and outlook

Although this paper has shed light on the MPS ecosystem, our understanding is still not sufficient. More cases should be examined and more evidence is needed to be collected to help us gain more profound understanding of the ecosystem.

Because of the single case study approach, the purposive sampling and small sample are potentially challenged. However, as MPS ecosystem is still in the early stage, and there are not many companies had successfully developed their MPS system. As one of the most successful and powerful companies globally, the evidence from Alibaba is strong and varied enough to represent the market. As Alibaba is an emerging market multinational corporate (EM MNC), the differences from traditional multinational corporates is also considered. Therefore, the subsequent studies could test this study's findings in quantitative methods through larger samples, especially traditional MNC originated from developed economies.

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Keywords*

Multi-platform-based Ecosystem, Platform, Ecosystem Competitive Advantage, Complementor Empowerment, Customer Envelopment, Innovation

TRANSITIONING TO OMNI-CHANNEL IN GROCERY RETAIL: A DYNAMIC CAPABILITIES APPROACH

Introduction

The retail industry is changing when online shopping grows and technology develops. Customers are demanding faster deliveries as well as more flexible and personalized shopping experiences. While the changes has been positive from a front-end perspective, retailers are struggling back-end (Kembro *et al.*, 2018). The complexity of order fulfilment is increasing, profit margins are plummeting, expected lead times are decreasing, and product assortments are growing. Retailers are therefore investing in new warehouses, IT systems and logistics processes (Melacini *et al.*, 2018).

For grocery retail, this change has been slower than in other retail sectors (Hübner *et al.*, 2016). However, in recent years, the grocery retail sector has experienced a rapid growth in online sales. Traditional bricks-and-mortar retailers are starting up online channels as a complement to their existing store channels. The logistics network must therefore be able to handle both store- and online customer orders, different delivery requirements are shorter lead-times (Hübner *et al.*, 2016). To cater to new demands, the logistics network must transform (Wollenburg *et al.*, 2018). To handle the increasing complexity and changing customer demand, it is common for grocery retailers to invest in separated warehouses, i.e. online fulfilment centres (OFC) and new technology (Wollenburg *et al.*, 2018).

This transformation, often referred to as omni-channel, entails changes both in general market development and in retailers' internal logistics networks. The logistics network must now cater to end-customers' new demands simultaneously, just as they cater to physical stores' demands. The omni-channel transformation has created a rapidly changing environment that sets high requirements on retailers' organisation and logistics capabilities (Eriksson *et al.*, 2019). To be competitive in the future, grocery retailers must invest in new logistics processes, new warehouses, new automation technology, and new IT systems, as well as transforming their organisation (Eriksson, 2019).

As online sales continue to grow rapidly, it will be interesting to investigate grocery retailers that have managed to succeed in this environment. Teece *et al.* (1997) argue that to achieve and sustain a competitive advantage in a changing environment, a company must have 'dynamic capabilities'. Teece *et al.*, (1997) define dynamic capabilities as a company's '*ability to integrate, build and reconfigure internal and external (competencies) to address rapidly changing environments*' (Teece *et al.*, 1997, p. 516). Logistics, operations, and warehousing are commonly viewed as ordinary capabilities. Shuen *et al.*, (2014) argue "*Strong ordinary capabilities indicate that the firm has achieved "best practices", and owns or has access to skilled people and advanced equipment*". Dynamic capabilities can be used to understand how these ordinary capabilities yield value-enhancing differentiation.

There are several reasons why dynamic capabilities is a good tool to understand grocery retailers' sustained competitive advantage in an omni-channel environment. Omni-channel grocery retail is a market characterised by rapid growth, changing customer expectations, and new technological development. Further, future competition and market development are difficult to anticipate. Moreover, retailers are making huge investments in warehousing and technology, and are transforming both organisations and logistics network (Eriksson *et al.*,

2019; Wollenburg et al., 2018). Analysing dynamic capabilities can help us understand how grocery retailers respond to these challenges and how they transform to omni-channel.

There are number of articles on dynamic capabilities on an organisational level (cf. Teece et al., 1997; Teece, 2007; Shuen et al., 2014; Feiler and Teece, 2014) and on dynamic capabilities from a supply chain perspective (cf. Defee and Fugate, 2010; Beske, 2012; Beske et al., 2014; Tatham et al., 2017; Gruchmann et al., 2019). However, there is a lack of knowledge on dynamic capabilities in grocery retail and logistics in an omni-channel environment. Mirsch et al., (2016) begins a discussion of dynamic capabilities in the transformation to omni-channel in their conference paper. However, their focus is on the organisation, not on the logistics, and they exclude the grocery retail context. Song *et al.*, (2019) and Song and Song (2020) investigate the relationship between human resources and supply chain integration, with dynamic capabilities as a theoretical lens. Wollenburg et al. (2018) discuss capabilities in online grocery retail fulfilment, but do not go in-depth on how dynamic capabilities can be used to further the understanding. Hence, there is a lack of knowledge on the capabilities required for a sustained competitive advantage in omni-channel grocery retail environment.

Purpose*

The rapid transformation of the grocery-retail environment, in combination with large investments in the back-end logistics, calls for research on how and why certain grocery retailers manage to succeed in an omni-channel environment. Previous research has highlighted the ability to transform the logistics network to cater new demands as of key importance in the omni-channel transformation (cf. Melacini *et al.*, 2018; Wollenburg *et al.*, 2018; Kembro *et al.*, 2018). While research has begun to explore what successful omni-channel retailers are doing with their logistics network, there is still a lack of research on how they are able to transform. These specific characteristics of omni-channel grocery retail makes dynamic capabilities an appropriate theoretical approach to understand this transformation. The purpose of this study is thus *'to explore and understand dynamic capabilities that successful grocery retailers possess in an omni-channel environment'*.

Conceptual framework

Dynamic capabilities have not before been used to explore grocery retail and logistics in an omni-channel environment. The first task of this study is therefor to develop a conceptual framework for exploring and investigating dynamic capabilities in this context.

The first part of developing the conceptual framework was to understand the specific context of omni-channel grocery retail. Previous research has showed that logistics and warehousing play a critical role for omni-channel grocery retailers (Hübner *et al.*, 2016; Wollenburg *et al.*, 2018; Eriksson *et al.*, 2019). However, this research stream has mainly focused on the configuration of the logistics network and material-handling nodes, and not on the capabilities required for this transformation. Still, this research area provides valuable knowledge on the context, situation, and development of omni-channel grocery retail.

Second, input from research on dynamic capabilities both from an organisational and supply chain perspective was collected. The conceptual framework will build on the works of Teece, (2007), Teece (2018), Defee and Fugate (2010), Koch (2010), Beske *et al.*, 2014, and Tatham *et al.*, (2017). According to Teece (2007), dynamic capabilities can be divided into three steps: i) *sensing* opportunities and threats, ii) *seizing* opportunities and iii) *managing* threats and reconfigurations. These three steps will be the fundament of the conceptual framework. The other articles will provide insight in to how to explore dynamic capabilities from a supply chain and logistics perspective. Defee and Fugate (2010) provide a model of dynamic supply chain capabilities which consist of three interrelated components, i) strategic orientations, ii) dynamic

supply chain capabilities, and iii) supply chain performance. Beske *et al.*, (2014) develop this model further, while Tatham *et al.*, (2017) investigate different types of dynamic capabilities among supply chain managers.

Design/methodology/approach*

In this planned study, we aim to explore and understand different types of dynamic capabilities that successful omni-channel grocery retailers possess. Further, we aim to identify underlying processes and factors in the external and internal environment that contribute to the development of these dynamic capabilities. The purpose of the study, in combination with the novelty of the phenomenon and the lack of existing research, makes a case study approach an appropriate method (Eisenhardt, 1989; Yin, 2009). The nature of the research objective makes it appropriate to use multiple cases with different contexts to be able to compare and contrast conclusions. Further, in a multiple case study, conclusions can be drawn from cross-case analysis and this can help increase generalizability (Voss *et al.*, 2002).

In order to be able to identify and understand different types of dynamic capabilities, as well as underlying processes and factors that contribute to the development of these dynamic capabilities, people with different tasks, perspectives, and responsibilities will be interviewed.

The case analysis will follow the processes described by e.g., Eisenhardt (1989) and Miles and Huberman (1994). The analysis will include both a within-case analysis and cross-case analysis. The emerging patterns and results from the analysis are systematically compared with the conceptual framework in a highly iterative process as recommended by Eisenhardt (1989) in order to reach theory, which closely fits with the data.

Expected findings*

The study will answer a number of detailed questions in order to accommodate to the purpose of the study. Examples of question can be seen below.

- How are grocery retailers sensing opportunities in the omni-channel environment?
 - o What skills and processes are required in the organisation?
- How are grocery retailers seizing opportunities in the omni-channel environment?
 - o How do grocery retailers make investment decisions related to omni-channel?
 - o What types of warehouses/automation/IT are they investing in and why?
 - o What capabilities are required to avoid bias toward existing solutions?
 - o Who is taking omni-channel investment decisions in the organization and why?
 - o What skills and processes are required in the organisation?
- How are grocery retailers transforming and reconfiguring in the omni-channel environment?
 - o Who is responsible for executing the transformation decisions?
 - o What skills and processes are required in the organisation?
 - o Has the organisation structure changed, and if so how?
 - o What capabilities are required for the implementation process of new, more complex automation- and IT-systems?
 - o What new competences and capabilities are required in OFC/DC to handle an increased use of complex automation solutions?

Original/value*

Grocery retail online is experiencing a rapid growth and retailers are investing heavily in new warehouses, automation, and IT. In recent years, research has investigated different aspects of grocery retailers transformation toward omni-channel (Colla and Lapoule, 2012; Hübner *et al.*,

2016; Wollenburg et al., 2018; Eriksson, 2019). However, there is a lack of research on how grocery retailers respond to the dynamic and changing environment and how they actually transform to omni-channel. This study provides value in that it aims to explore and understand different types of dynamic capabilities that successful omni-channel grocery retailers possess. Further, the study will explore underlying processes and factors in the external and internal environment that contribute to the development of these dynamic capabilities.

Practical implications

Grocery retail online is growing rapidly. At the same time, grocery retailers are struggling with the transformation to omni-channel. Omni-channel grocery retail is a market characterised by rapid growth, changing customer expectations, and new technological development. Further, future competition and market development are difficult to anticipate. This study will provide insight on how successful omni-channel grocery retailers are transforming. Further, the results will give practitioners example of capabilities that are required in this new environment.

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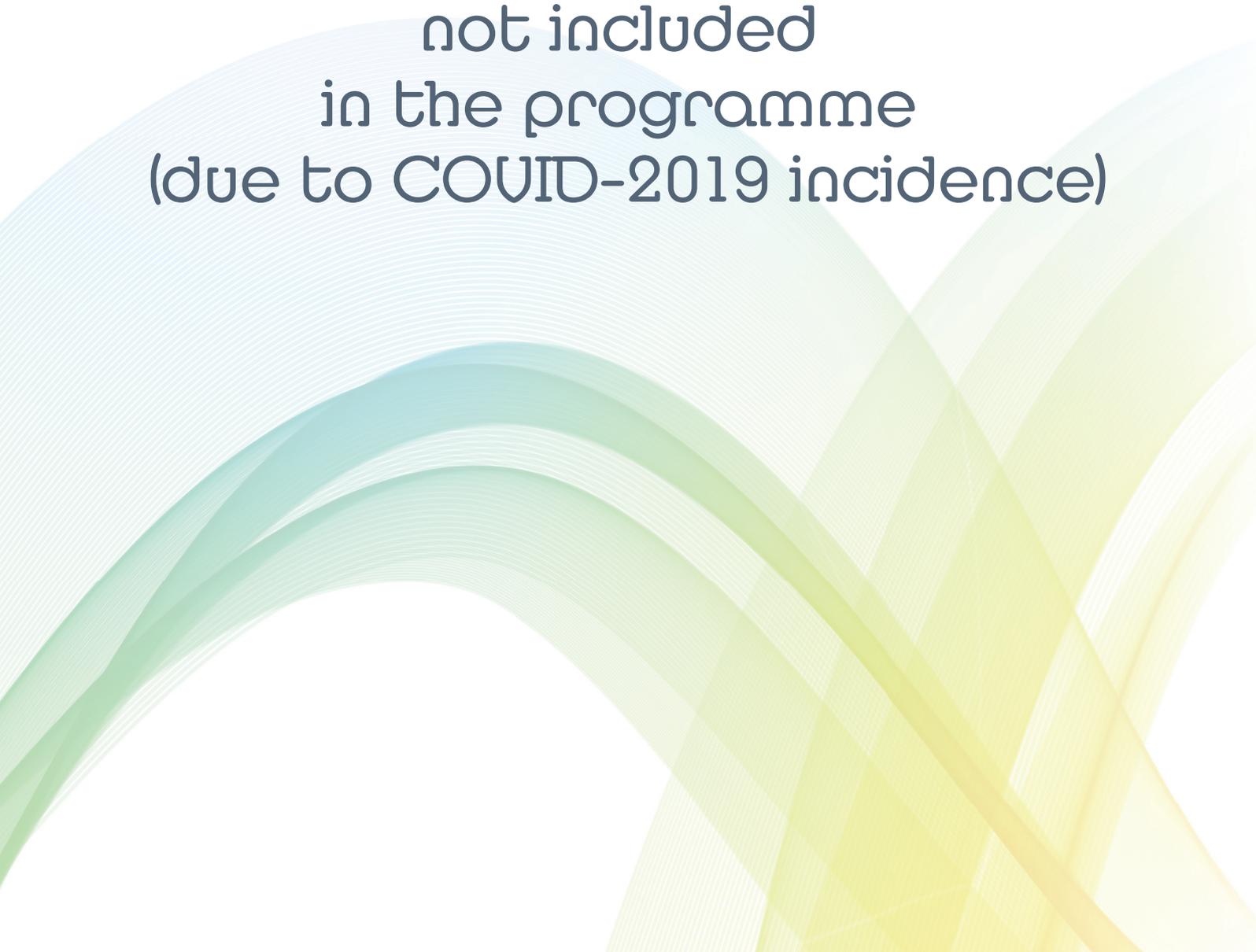
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Keywords*

Omni-channel, Grocery retail, Logistics network, OFC, Automation, Dynamic capabilities, Warehouse, Transformation, DC

CEPR 2020

Papers accepted but
not included
in the programme
(due to COVID-2019 incidence)





“ASSESSING THE AUTHENTICITY OF ONLINE-ONLY BRANDS”

Giovanni Pino. University of Chieti-Pescara (Italy)

Kokho Jason Sit. University of Portsmouth (UK)

Marco Pichierri. University of Salento (Italy)

The continuous growth of electronic commerce has fostered and sustained the rise of online-only brands (OOBs), namely those brands that are available only via the Internet. Consumers often purchase OOBs with little or no product-interaction opportunities.



“BEYOND TRADITIONAL MOTIVATION: PREDICTING THE WEARABLE FITNESS TECHNOLOGY ADOPTION BY USING ORGANISMIC INTEGRATION THEORY”

Syed Waqar Haider (School of Management Xi'an Jiaotong University, China)

In the prior literature, the motivation to adopt wearable fitness technology (WFT) has been linked with either intrinsic or extrinsic. However, how the subcategories of extrinsic motivations (identified, introjected, and external) affect the consumers' WFT adoption decision remains sparse. Furthermore, do regulatory focus (prevention vs. promotion), and gender differentiate the effects of different motivations on WFT adoption is almost unknown in the healthcare marketing literature. To fill this gap, the present study aims to deepen the understanding of WFT adoption by using Organismic Integration Theory (part of self-determined need theory SDT) and regulatory focus theory. The results show that intrinsic, identified, and external motivations have the greatest impact on consumers' decision while introjected motivation was not significant directly. The moderation effects of regulatory focus are significant in such a way that prevention focus influence the introjected motivation and promotion focus affect the external motivation and WFT adoption decision. Furthermore, the findings on gender moderation show that female are more intrinsically motivated, and male are more externally motivated for WFT adoption. Finally, the implications and future research direction have been discussed.



“CONSUMER RISK PERCEPTIONS TOWARD INTERACTIVE SERVICES”

Chieko Minami (Kobe University)

Liu Boyi (Kobe University)

Kenichi Nishioka (Kansai University)

Smart services are considered highly technology-based, and this research aims to examine consumers' responses to them, in terms of risk perception and intention to use to understand better how to introduce these services in retailing. We developed the conceptual model which consists of five characteristics of smartness, four kinds of risks, consumer's attitude and intention to use smart services.

Online survey was conducted on the Prolific platform and 530 respondents were asked to respond the questionnaire about the smart services provided through smartwatch. PLS-based structural equation modelling was used to examine the proposed model. The research revealed as follows: 1. The most influential factors on consumers' attitudes toward smart services are privacy risk and time risk. 2. The more intelligent the smart service, the more distinct its characteristics will be. Moreover, different characteristics bring different kinds of perceived risks and have different influences on them.

This research contributes to the field of study by testing empirically the effects of characteristics of smart services on consumers' intention to use. Retailers can avoid consumers' negative attitudes through the following two ways: characteristics that will not affect risks can be upgraded, such as enhancing automation of smart services and increasing multi-functionality. They can also directly reduce various risks by increasing the ability to cooperate in smart services.



“EXPLORING EARLY ADOPTER EXPECTATIONS IN UNATTENDED GROCERY DELIVERY”

John Olsson, Mary Catherine Osman ,Daniel Hellström, Yulia Vakulenko
(Lund University, Department of Design Sciences)

Purpose

The purpose of this study is to empirically identify and understand the types and forms of customer expectations in unattended grocery delivery services in omni-channel retail, and suggest propositions for further research and development of the research area, providing practitioners with a better basis for managing such services.

Design/methodology/approach

This study explores a novel phenomenon, as unattended delivery of groceries is an emerging practice that lacks examination from the consumers’ perspective. A multiple case study of early adopters was conducted to explore consumer expectations in unattended grocery delivery. Semi-structured interviews with 10 Swedish households were conducted and coded using open coding inspired by grounded theory. In addition, direct observations were made to capture the context of the individual households.

Findings

The empirical evidence from the case studies suggests that consumers have three types of expectations: expected standard service, desired service and predicted service. The analysis further indicates that these expectations are formed by three determinants, personal needs, technology literacy, and situational factors in unattended grocery delivery. Based on the empirical findings we formulate a set of six propositions for further research.

Research limitations/implications

This case study focuses on one particular solution for unattended grocery delivery. Although the expectations in other unattended delivery solutions may be different, this study provides detailed explanations relevant to similar solutions contributing to the growing body of literature on last mile delivery.

Practical implications

The findings provide managers with an understanding of the level of service consumers expect in unattended grocery delivery, building a better basis for managing such delivery services.

Original/value

This study provides the first in-depth analysis of consumer expectations in unattended delivery in the context of omni-channel grocery retail, a novel yet emerging service for last mile delivery.



“FAST-FASHION RETAILERS’ DISTRIBUTION MANAGEMENT IN EMERGING COUNTRIES”

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Hassan First (University, Morocco)

Fouad Riane (Laboratoire de Génie Industriel, Centrale Supélec Ecole Centrale Casablanca, Morocco)

The fast-fashion industry has grown to be an important pillar of the Moroccan economy. Investments had grown as fast as the potential unravels, but they will need to be backed by serious optimization tools to meet their end. In this paper, we address a distribution problem for supplying store with fashion items. We present a real-life case study where a company tries to build an effective strategy to cover its network. Two problems of concern are addressed, relating to products’ assignment to stores and to re-building assortments through inter-stores transfers. To tackle these problems, we used clustering and decision trees among others. The results are promising regarding the process, and help build a solid support for a foreseen forecasting system..

“INTERPRETING SHOPLIFTING BEHAVIOR IN INDIAN CONTEXT: AN EXPERIMENTAL APPROACH”

Narasimhan Rajkumar, Sanjeev Varshney, Sourabh Arora
(XLRI School of Management and Human Resources)

Despite the fact that spirituality has long been realised as a unique context of Indian culture (Lamont and Bates, 2007) and it has been found to negatively impact the consumer's attitude towards unethical behaviour (Vitell et al., 2018), its impact on shoplifting remains under-examined. It is argued that consumers high on spirituality are less likely to shoplift because of the high orientation of such consumers towards doing good (Vitell et al., 2018) which might impede them from adopting harmful behaviours like shoplifting. The study additionally examines the role of conspicuous consumption/materialism on shoplifting behaviour. Materialism, which essentially establishes the belief that possessions are a key to happiness (Richins, 1994), has been found to positively impact shoplifting behaviour (Bai et al., 2019). Past researchers have endorsed the view that highly materialistic consumers do not shy away from compromising on ethical rules (Ferrell and Gresham, 1985; Richins and Dawson, 1992) and due to the lack of sense of community (Belk, 1988) indulge in shoplifting. The study aims at verifying the same findings for Indian shoppers. The study also tries towards examining the role of levity/or humour as regards consumers shoplifting behaviour. As far as the knowledge of authors is concerned, humour has not been related to unethical consumer behaviour yet. However, past researchers have asserted that individuals often use humour as an excuse to pass off unsocial and criminal behaviour (Thomae and Pina, 2015; Yoon, 2016; Steer et al., 2017; Rawlings, 2018). Utilizing the work of Kraut (1976) and the extraversion principle of Egan and Taylor (2010), the study aims at exploring if shoplifting as a crime is being committed as a ‘dare’ since consequences are not perceived to be serious. We contend that a person high on levity will engage in more unethical behaviour like shoplifting since the action is more of a ‘dare’ for him/or her rather than a serious activity. The study further contributes by examining the impact of meaning in life on shoplifting which has been described as the strength, intensity and activity of people’s desire to establish their understanding of the meaning, significance and purpose of their lives in general (Steger et al., 2008). As per one of the studies by Steger et al. (2006), the presence of MIL correlated -.48 with depression implying that the presence of MIL leads to greater positive feelings about life in general. No study so far has looked at the relationship between MIL and unethical consumer behaviour like shoplifting.



“INVESTIGATING THE HEALTHINESS OF FOOD PRODUCTS ON PROMOTION: MARKET BRANDS AND OWN BRANDS”

Dr Emma Beacom (University College Cork, Ireland)

Dr Lynsey Hollywood (Ulster University, Northern Ireland)

Dr Christopher McLaughlin (Institute of Technology Sligo, Ireland)

Supermarket own brand (OB) products are gaining prominence in retail markets due in part to consumer concerns about food affordability, increased investment in private label product development, and the rising popularity of discounters. This study analyses an existing audit tool containing nutritional information about a variety of foods on promotion (n=6776) from eight retail stores in Northern Ireland (NI) in order to investigate the proportionality of market brands (MB's) versus OB's on promotion, and to compare the healthiness of MB foods versus supermarket OB foods on promotion. Product healthiness was measured using a score aligned to the Food Standards Agency's Front of Pack nutrient labelling methodology. The data set was analysed to examine differences between international/national and regional MB's, and premium, mid-market and value tiered OB's. Results found a balance in favour of health (52.4% amber/green versus 47.6% red) across retailer's promotions in NI. Further, OB products were often found to be superior to MB's with regards to nutrient status, and international/national brands were found to be healthier than regional brands. These results provide evidence that consumers with less disposable income to spend on food can achieve a nutritionally adequate diet using OB rather than MB foods. Retailers primarily market their OB products as preferential to MB's because of their price, this study's findings however indicate that promoting product characteristics (nutritional profile) could also create competitive advantage. Regarding MB's, regional MB's in particular should consider the nutritional profile of their products in line with the increasing consumer trend for health.

"WHAT DRIVES CONSUMERS' TO COLLECT INFORMATION ONLINE BEFORE PURCHASING OFFLINE? INSIGHTS FROM WEBROOMING NARRATIVES"

SOURABH ARORA (XLRI Jamshedpur)

Dr. Sangeeta Sahney (IIT Kharagpur)

Webrooming has emerged as one of the crucial issues in the contemporary multi-channel retailing dynamics. It denotes the purchase behaviour of those shoppers who intentionally visit an online store for collecting information but later purchase offline. The objective of the proposed research is to understand the consumers' rationale behind deliberately adopting online search-offline purchase sequence by executing the narrative-based examination. A total of 21 webrooming-narratives were employed, and inductive thematic analysis was executed to identify key themes. Results of the study revealed that shoppers mainly webroomed to; maximize their shopping utility by combining benefits of both online and offline channels, form consideration sets, avoid the regret of making sub-optimal choices, gaining choice-confidence, avoiding online-risks, and because of the distrust towards online stores. Impact of product type and categories is also foreseen, along with the noteworthy impact of consumer-skills. Findings of the study can be utilized by online retailers for countering webroomers.



“WHO WILL INNOVATE NEXT? A COMPARISON BETWEEN LUXURY AND FAST FASHION RETAILERS”

Virginia Vannucci (University of Florence, Italy)

Eleonora Pantano (University of Bristol, Bristol, UK)

Milena Viassone (University of Turin, Italy)

Both luxury and fast fashion retailers are introducing innovative technologies to enhance consumers shopping experience and gain competitive advantage. However, the huge availability of innovations and the involved risks make the decision to innovate a complex task. For this reason, retailers are adopting different innovation and technology management strategies. The aim of this research is to compare and contrast fast fashion and luxury retailers willingness to innovate, in order to understand how innovation and technology management result into benefits for retail management. It further provides suggestions to improve the innovation management process, from a both theoretical and practical point of view.

MAXIMIZING CUSTOMER LIFETIME VALUE THROUGH STRATEGIC CHANNEL MANAGEMENT: MOBILE APP VERSUS WEBSITE

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The Suggestions of the Reviewers

- Reviewers' 1 ratings and suggestions:

1. The overall contribution of the paper to retail research. 5
2. The readability of the manuscript. 6
3. The review of the existing literature. 6
4. The research method and discussion of results. 5
5. The managerial/social implications. 4
6. Decision: Accepted
7. Suggestions: Very up-to date topic! Some minor suggestions, please:

- Can you elaborate more on customer groups? (there are segmentations in literature , e.g., loyal, frequent, occasional users)

- How do you define discount? (price reductions,% saving, .. how does this fit the overall pricing strategy of the retailer?)

- What are the managerial implications per group? Could the loyal consumers get a different type of reward to prevent discrimination? => watchout: If you only trade up occasional users and lose loyals, the overall profit effect might be negative!

- Reviewers' 2 ratings and suggestions:

1. The overall contribution of the paper to retail research. 4
2. The readability of the manuscript. 5
3. The review of the existing literature. 3
4. The research method and discussion of results. 4
5. The managerial/social implications. 5
6. Decision: Accepted
7. Suggestions:

Introduction

- The authors conclude from a single use of M-Commerce to a permanent use. This abstracts from many important factors that have an influence in this regard (e.g. satisfaction with this channel, technically problem-free, ...)

Methodology

- Sometimes there are (too) strong redundancies between introduction and methodology

- Why should purchases made via the website and the app be mutually exclusive? It is very conceivable that customers use both channels (e.g. alternately).

- It would definitely be worthwhile and more realistic to consider cases in which there are changes between the app and the website.

Findings

- Unfortunately, no empirical evidence seems to exist. This would be very useful for an investigation of this kind.

- The results seem to me to be quite general. I cannot see a critical reflection. This may be due to the scope of the abstract.

I think this abstract can contribute to conference. The comments and questions I raised should be suitable for leading the discussion if they are not already answered in the oral presentation.

Introduction

Mobile devices have a customer engagement and adoption advantage over fixed devices. They are irreplaceable parts of today's life. Mobile apps are a central aspect of this trend. Hence, there is an indication that mobile channels might be more effective in terms of triggering purchasing than other sales channels, including websites (Dinner et al., 2015). Thus, mobile devices play a unique role by offering convenience to customers during the pre-purchase, purchase, and post-purchase phases for the customer decision process (Shankar and Balasubramanian, 2009). This unique nature gives customers the impression of a close relationship with the retailer and therefore leads them to develop habitual interactions with the firm (Wang et al., 2015). Moreover, perceived emotional values lead the users to adopt mobile devices for purchases (Nysveen et al., 2005; Strom et al., 2014).

We theorize that when the customers adopt mobile devices for their purchases, they start using these devices regularly and turn this into a habit. We assume that the customer lifetime value (CLV) of those mobile channel users tends to be larger than the CLV of website users. One of the main reasons behind this assumption is that users' order rates increase when they adopt mobile apps, resulting in a higher net monetary value in total spending (Narang and Shankar, 2016; Wang et al., 2015). Moreover, smartphone and tablet users have a higher basket-to-conversion rate compared to fixed device customers purchasing over websites (de Haan et al., 2015). Consequently, online retailers should encourage their customers to switch to using mobile devices. In practice, some firms already offer coupons, games, or loyalty points for this purpose. Naturally, another powerful option to incentivize the use of mobile devices could be offering a discount for purchases made through m-commerce. Focusing on this option, the purpose of this article is to develop a modeling approach to answer the following research questions:

1. To what type of customers should a discount be offered when purchases are conducted over mobile apps?
2. What is the optimal discount rate that should be offered?

Our approach is based on the idea that customers who start using a mobile device to purchase products online also start using the mobile channel on a regular basis and turn this behavior into a habit. Therefore, those mobile app users, who have a higher net monetary value in total spending, may become more valuable customers for companies. Thus, firms could choose to offer a discount to their customers to steer them to the mobile channel. In our analysis, we show to which customers the firm should offer a discount via the mobile app. The firm makes its decision based on how a discount rate changes the customer's purchasing probability, how well the customer adopts the mobile channel, what the current purchasing probability of the customer is, and how active the customer is.

Methodology

We base our model on the assumption that once a customer adopts the mobile channel, she increases her purchasing frequency. Wang et al. (2015) show that mobile app users have a higher average order rate than non-users. We designed an analytical model based on this assumption. In the analysis of this model, we calculate the CLV of a customer based on her discounted expected transactions (*DET*) and show how offering a discount over the mobile app increases or does not increase the CLV.

Our modeling approach focuses on 1) how to calculate the CLV of a customer, 2) the idea of offering a discount to those who purchase over the mobile app, 3) which customers to target with a discount offer over the mobile app, 4) the optimal value of the discount rate, and 5) which strategy the firm should follow. Offering a discount to mobile app users may decrease the short-term profit. However, marketing managers should not only focus on the short-term profit but rather pay more attention to customer satisfaction on a long-term basis (Zhang et al., 2015). Among other strategies, offering a discount to customers is a way to strengthen the relationship between the firm and its customers.

Wang et al. (2015) show that the average order rate of mobile app users is higher than non-users. Users also tend to keep using the mobile app once they adopt it because of higher user engagement. Our objective is to increase the CLV of the customers by increasing their purchase rates (frequency) through mobile sales channel adoption. We propose the idea of offering a discount to mobile app purchasers to steer them to these sales.

In the model, we apply discrete time transactions to reach the discounted expected transactions (Fader et al., 2004). We calculate the CLV of a customer by multiplying the cash flow and *DET*. Our model follows with the calculation of the *DET* in two cases: (1) when a discount “*e*” over the mobile app is offered and (2) the discount is not offered. Then, we compare these transactions to find out in which cases it is more profitable for the firm to offer the discount. Lastly, we will show how to calculate the optimal discount level when it is optimal to offer it.

In the model, there are two sides: the firm and the customer. The firm is a profit maximizer. It sells its products over two sales channels: the website and the mobile app. It chooses between the strategies of offering or not offering a discount over the mobile app. The customer simply purchases on the firm's sales channels. She has a utility from purchasing products. Hence, we assume that she may purchase on a regular basis. Her *DET* is equal to the summation of all her transactions. When the firm offers a discount over the mobile app, she chooses between adopting the mobile app or not. In the beginning, we assume that the customer is active and purchases over the website and/or mobile app. Then, the firm decides on its strategy as well as the discount rate if it decides on offering it.

Transactions when a discount “e” is not offered

In the first part of the model, the firm has two sales channels (the website and the mobile app) where the pricing is the same across both channels. The firm sells the products for the same prices over both of the channels. Assuming that the customer is active at the beginning of the first period, her possible purchases follow the basic structure in Table 1.

Table 1. Transaction Probabilities When a Discount “e” Isn’t Offered

Period	1	2	3	...	n	...
$p(\text{active})$	1	q	q^2	...	q^{n-1}	...
$p(\text{web}/\text{active})$	p^W	p^W	p^W	...	p^W	...
$p(\text{app}/\text{active})$	p^M	p^M	p^M	...	p^M	...
Interest	1	$(1+d)$	$(1+d)^2$...	$(1+d)^{n-1}$...

In this structure, we assume that an active customer in period n will stay active at the beginning of period $n+1$ with a probability of q . The customer purchases over the website with a probability of p^W and over the app with a probability of p^M in any period. Purchasing over the website and the app are mutually exclusive. Customer channel adoption is not relevant in this case. We calculate the \overline{DET} by summing the transactions over an infinite time period by applying the sum of an infinite geometric series:

$$\overline{DET} = \sum_{t=0}^{\infty} (p^W + p^M) \left(\frac{q}{1+d}\right)^{t-1} = \frac{(p^W + p^M)(1+d)}{1+d-q}$$

Transactions When a Discount “e” Is Offered

In the second part, we focus on the case that the firm has two sales channels. The firm offers a discount “e” over the mobile app. Assuming that the customer is active in the beginning of the first period, his/her possible purchases follow the basic structure in Table 2.

Table 2. Transaction Probabilities When a Discount e Is Offered

Period	1	2	3	...	n	...
$p(\text{active})$	1	q	q^2	...	q^{n-1}	...
$p(\text{adopted}/\text{active})$	0	$1-\alpha$	$1-\alpha^2$...	$1-\alpha^{n-1}$...
$p(\text{web}/\text{active}, \text{non-adp})$	p^W	p^W	p^W	...	p^W	...
$p(\text{web}/\text{active}, \text{adp})$	-	0	0	...	0	...
$p(\text{app}/\text{active}, \text{non-adp})$	p^M	p^M	p^M	...	p^M	...
$p(\text{app}/\text{active}, \text{adp})$	-	\bar{p}	\bar{p}	...	\bar{p}	...
Interest	1	$(1+d)$	$(1+d)^2$...	$(1+d)^{n-1}$...

where

$$\bar{p} = p^W + p^M + he(1 - p^W - p^M)$$

e is a permanent discount rate over the mobile app. The discount plays a role in steering the customers to use the mobile app on a regular basis. A non-adopted customer at period “ n ” will stay non-adopted at the beginning of period “ $n+1$ ” with a probability of α . The purchasing probabilities over the website and mobile app are p^W and p^M respectively before adoption. These probabilities are mutually. Once a customer has adopted the mobile app, she purchases only through it. In this case, the customer purchases over the mobile app with a probability of \bar{p} . We assume that \bar{p} increases correlated with e as well as a constant h . The constant exists to capture how well the customer increases her probability of purchasing after the mobile app adoption. When the h value of a customer is high, she increases her purchasing probability highly once she adopts the mobile app. The summation of the transactions over the customer's life time is as follows:

$$DET = \frac{q(1 - e)(p^W + p^M + he(1 - p^W - p^M))}{1 + d - q} + \frac{(1 + d)(p^W - (1 - e)(he(1 - p^W - p^M) + p^W))}{1 + d - \alpha q}$$

The optimal discount rate is given by

$$e^* = \frac{h + 1}{2h} + \frac{d^2 - 1}{2q} + \frac{(1 - \alpha)(d^2 - 1)}{2(\alpha q - d - 1)} + \frac{1}{2h(p^W + p^M - 1)}$$

Findings

Our findings indicate that the firm is more likely to offer a discount over the mobile app to a customer who is either unlikely or very likely to increase his/her purchasing probability after being offered the discount. In these ranges, the increase in CLV in the long run outweighs the decrease in the short term profit. The result is the opposite for moderate values of purchasing probability change. Another finding is that the firm is more likely to offer a discount over the mobile app when a customer does not adopt the mobile app. On the other hand, the firm should not offer a discount to a customer who already has a high purchasing probability. His/her CLV is already high, and the discount brings nothing but loss of profit to the firm. Finally, an important result of the model shows that the firm should not apply the strategy of offering a discount over the mobile app to increase its customer acquisition. In this case, we find that new customers tend to use the discount for one-time purchases and leave the firm afterward.

In the second part of our analysis, we focus on the optimal discount rate when offering it is part of the optimal strategy of a firm. In this part of the analysis, we calculate the discount rate that gives the DET its optimal value. We also show how the optimal discount rate changes based on different customer characteristics. We show that when the discount greatly increases the customer's purchasing probability, the firm offers a higher discount rate. Similarly, the firm

offers a higher discount rate to those who tend to adopt the mobile app quickly as well as to more active customers. The idea behind the increase in those three customer characteristics is the same: the customer tends to spend more and increase his/her CLV with the discount. On the other hand, the firm decreases the discount rate when the current purchasing probability of a customer is high. It is important to note that, the strategy of offering a discount to the customers with high current purchasing probabilities is not the optimal one most of the time. However, even when it is the optimal strategy, the firm keeps the discount rate to these customers low. The logic behind this is simple: the customer's CLV is already high and offering a higher discount rate only decreases the firm's profit.

Our findings are informative for managers. This article presents a strategy to increase a firm's long-term profit. It clearly shows that this strategy is not a good one for customer acquisition. This is why it is not a good idea to try to attract someone who is not a customer by offering his/her a discount on the mobile app. The same is true for a strategy such as "shipping is free on mobile." The main takeaway for managers is that although this strategy increases the CLV of some customer types, certainly one discount does not fit all.

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Keywords

Customer lifetime value, Customer-base analysis, Mobile purchasing adoption, Multi-channel sales, Retail pricing

OPTIMAL IN-STORE FULFILMENT POLICIES FOR ONLINE ORDERS IN AN OMNI-CHANNEL RETAIL ENVIRONMENT

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Introduction

The explosive growth of e-commerce creates a need for increasingly responsive omni-channel fulfilment capabilities, which raises new challenges in inventory management and order fulfilment for retailers. Meeting customers' requirements and keeping up with quickly advancing service standards in e-commerce is becoming increasingly challenging from an operational point of view. A key determinant of the cost and complexity of online fulfilment in omni-channel retailing is delivery speed. The emergence of delivery services with delivery lead times of two hours or less (Ehmke 2014, Castillo 2018) puts pressure on retailers striving to be successful in the omni-channel world. On the one hand, these delivery services further raise customer expectations and may become a key distinguishing factor for consumers to choose between competing vendors. On the other hand, the cost of fulfilment of online orders increases rapidly as delivery lead times reduce further. Therefore, it is critical for omni-channel retailers to find the optimal trade-off between providing a high service level and customer experience enabled by fast fulfilment capabilities and containing the fulfilment cost on their online orders. In this context, omni-channel retailers are increasingly looking at exploiting their physical store network to leverage localized inventory positions from which to fulfil online orders. Items stored in traditional Brick and Mortar shelf space and back room storage is thus used not only to satisfy walk-in customer demand in the physical channel, but

also to cater for online orders which are picked, packed and shipped to the customer directly from the stores. This concept is also known as “shift from store” (SFT) strategy and is most commonly seen in dense urban markets. Several retailers such as Walmart and Amazon-Whole Foods, as well as online marketplaces such as Instacart, have already implemented in-store e-commerce fulfilment concepts. While ship-from-store strategies can help retailers to move closer to the consumer and enable higher sales, faster deliveries, lower cost, and improved margins (Accenture 2018, Cain 2018, Stelzer 2017), failure to properly implement such a strategy can result in a number of critical issues, including both online and offline stock-outs, higher costs, lost sales, and eventually customer dissatisfaction or loss.

Purpose

In this paper, we are modelling the in-store fulfilment process of an omni-channel retailer using an SFS strategy to fulfil online orders. The extant literature on omni-channel retailing addresses issues related to the integration of online and offline channels and customer behavior. Most of the existing studies focus on the problem of finding the optimal order quantities and reorder points in the different sales channels (e.g., Alawneh & Zhang 2018, Boyaci 2005, Zhao et al. 2016) or investigate the impact of multi-channel and omnichannel strategies on in-store traffic, online and offline sales, and customer behavior (e.g., Gallino & Moreno 2014, Gallino et al. 2017, Jin et al. 2018). Note that we do not attempt to find an optimal ordering policy, nor studying the impact of omnichannel retail in terms of sales and customer changing behavior, which are problems widely discussed in the literature. Rather, we extend the existing studies by analysing a pure-play SFS strategy according to which both online orders and walk-in purchases are fulfilled from in-store available inventory. We focus on prescribing optimal in-store fulfilment policies for SFS strategies in omni-channel retailing, taking into consideration a variety of sources of uncertainty. Specifically, our model intends to determine the optimal amounts of time to allow for batching of online orders prior to starting the in-store picking process and of readily picked orders prior to starting the courier pickup and delivery process. We use our model to derive a set of managerial implications applicable to many omni-channel problems. The primary focus of our analysis is the trade-off between customer service level and cost. There are three main contributions of this paper. First, we develop a comprehensive end-to-end view of a typical in-store fulfilment process for omni-channel retailers following a ship-from-store strategy. This serves as the basis for our subsequent quantitative modelling and analysis of the trade-offs inherent to this process. Second, we derive simulation-based insights into optimal in-store fulfilment policies that are generally applicable to many omni-channel fulfilment problems. Third, we apply our proposed model to a realistic case study informed by real data from a major sporting goods retailer. This case study provides case-specific insights and demonstrated the applicability and relevance of our proposed method to real-world decision problems in omni-channel fulfilment.

Design/methodology/approach

We develop a discrete event simulation model to analyse and optimize the in-store e-commerce fulfilment process under a variety of sources of uncertainty. We combine our proposed simulation approach with an Exploratory Modelling and Analysis (EMA), which allows us to incorporate and test various fulfilment policies in a variety of scenarios of analysis. We then apply our proposed modelling approach to a case study informed by real data from a leading sporting goods omni-channel retailer in New York City in order to illustrate the practical applicability and the value of our approach.

Findings

Our results define the optimal in-store fulfilment policies for SFS strategies in omni-channel retailing, i.e., the optimal amounts of time to allow for batching of online orders prior to starting the in-store picking process and of readily picked orders prior to starting the delivery process. Our analysis reveals that (i) the arrival rate of in-store customers highly affects the online orders service rate; (ii) the fulfilment policies affect the total cost of operations; and (iii) different combinations of fulfilment policies highly affect the in-store space requirement and the order lead time. Also, our results show the relationship and the trade-off between the model constraints and performance, which are of importance while searching for the optimal policy. We then compare how our results change when considering different order arrival rates, corresponding to different part of the day, suggesting if and when an omnichannel retailer needs to differentiate her fulfillment policies according to different time frames. Our case study illustrates how our proposed methodology can be employed to determine an optimal policy for implementing a two-hours delivery ship-from-store online fulfillment service in a megacity such as New York City. Besides defining a single optimal policy, this case study also provides insight into the viable ranges of the various policy levers we explore.

Original/value

Motivated by the challenges of a real sports fashion retailer, this paper contributes to the omni-channel retail literature by studying a new fulfilment trend that has recently started to emerge: omnichannel retailers are starting to exploit the store space in excess to localize the inventory used to fulfil online orders. We study the fulfilment policy optimization considering both the virtual and physical inventory at the retailer operating in an omnichannel environment. The results of our work are of interest both for academics and practitioners.

Practical implications

The outcomes of our proposed method are of relevance also for real-world decision problems in omni-channel environment, suggesting how to set the major parameters and decision variables in order to guarantee a high service level and meeting the delivery due date while minimizing the costs. Practitioners can make use of our methodology and results to design their fulfilment policies, and measure and improve their performance.

Social implications

Within the study of the delivery process, this work explores the feasibility of an alternative transportation mode for the last mile delivery in megacities, i.e., electrical bicycles. Besides cost and service issues, important environmental and social aspects are associated to the last mile logistics, including CO₂ emissions, traffic congestion and air pollution. Hence, it is of interest to present a viable solution for retailers which addresses, besides the economic aspects of the delivery process, also the environmental and social ones.

Research limitations and outlook

This work can be extended in the following ways. First, it will be of interest to include courier supply uncertainty, i.e., analyse how the model and results would change in case couriers are not always immediately available for delivery. Second, one could include restocking of the store inventory during the day and shelf space and back room storage constraints: in real life,

it may be desirable to be able to leverage intra-day replenishment as another policy lever to improve the performance of the company's in-store fulfilment operations for online orders. Lastly, it would be of interest to extend this work to perishable products and investigate if and how the results obtained for non-perishable products would change.

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Keywords

e-commerce, omni-channel retailing, logistics, simulation, applied probability

PASSENGER'S SHOPPING BEHAVIOUR: AN EYE-TRACKING STUDY

Introduction

The airport is big business (Doganis, 2005). It does not only carry economic significance, but it also often provides the first impression of the country to the visitors from the other countries (Matsuo et al., 2010). Airport generated USD\$19 Billion alone from its offering of retail services in 2014. Some label airport retail as the Formula 1 of retail (Economist, 2014). Retailing in the airport environment has received wide attention from academics from various discipline such as retail, engineering and aviation. With the rapid development of airport retail, there are continuous discussions around the role of the airport. While some airlines believe airport should be only seen as "bus stop" (Nikolaeva, 2012), airports are becoming shopping centres or even small cities with runways (Humphreys, 1999, Orth et al., 2015). The growing demand for air travel would also mean that airport retail will benefit from a increasing customer base.

Background and Context

There is a rich literature on the impact of passengers' social demographics on airport retail. Similar to general retail, passenger's characteristics such as gender, income exerts a significant influence on passenger shopping decision (Omar and Kent, 2001, Freathy and O'Connell, 2012). Geuens et al. (2004) pointed out that passengers could be categorised into different types of shoppers based on demographics, and they exhibit different needs for retail layouts. Adey (2008) further elaborated that the architectural design of some terminals limits the possible movement of passengers or unknowingly "guides" passenger movement in the terminal along "pre-planned routes" using obstacles in the terminal interior design, such as walls, glass and metal barriers. By guiding the movement or "flows" of passengers in the terminal, airports can potentially create more exposure for retail shops along the passenger flow paths and stimulate passenger spending. Therefore, passengers' movement in the terminal is paramount to airport retailers. However, consumer's behaviour and movement are more widely studied in other retail environments (see (Baron and Wass, 1996, Crask, 1979, Reimers and Clulow, 2004, Zhu and Timmermans, 2011)), retailers in airports could benefit significantly with a better understanding of passenger behaviour and its associated movement.

Purpose*

This study investigates how passengers spend their time and how they move around within the airport retail environment with limited time.

Design

An on-site eye tracking exploratory study was conducted together with the use of questionnaire and interview. This study aims to help us to understand passenger's shopping behaviour from a 1st person's perspective. The focus of this exploratory study is mainly to observe passenger's behaviour and their physical movements. Therefore, more attention was paid to participant's observation and physical movement. Even though eye tracking video provides more dimensions of the understanding of the passenger movement in the airport terminal, it is too costly to run on a bigger sample size. Hence, the exploratory study is more qualitative rather than quantitative.

In order to better understand passenger's behaviour in the retail environment provided by the airport, we observe the passenger's natural behaviour with minimal interference. To achieve this, we require passenger's movement data to understand when and which stores were visited.

This data should also include the passenger's timestamps to understand the impact of time on passenger's behaviours. Lastly, we also need to collect passengers' shopping diaries and seek additional information about the passenger's shopping strategy. This is achieved through a combination of questionnaire and a short interview. The questionnaire and short interview included three types of question: (1) passenger's socio/travel-demographics, such as gender, income, travel purpose; (2) shopping information, such as preference, the item purchased, money spent; (3) an open-ended interview about passengers' shopping strategy, such as planned shopping.

Data

Data was collected in one of the secondary airports in Asia. We used the Pupil Lab's mobile eye-tracking bundle to conduct this exploratory study at the airport. Passengers were randomly intercepted and asked to participate in this exploratory study after they passed the immigration area. After they agree to participate, participants fill up the 1st part of a survey (demographics-related and shop preference-related questions). After passengers completed the 1st part of the survey, passenger put on the Pupil Lab eye tracker and completes the necessary steps required for offline calibration.

A random sample of 40 passengers (21 males and 19 females) were recruited to participate in the exploratory study. A valid sample consists of data from eye-tracker (left-eye data, right-eye data and world camera data), survey and the short interview discussion. As a result, only 34 of the participants completed the whole exploratory study, and their results are considered valid. Three samples are excluded due to the technical difficulty of the eye tracking device. Another three samples are excluded as passengers did not have time to complete the interview when they arrive late at the departure gate.

Basic Sample Characteristics from Survey

Table 1 lists some basic characteristics of the sample. There are more male passengers (56%) than female passengers (44%) in the data collected. According to Chen and Chao (2015), passengers can be classified as young (30 years or younger), middle (31-50 years) and senior (51 years and above). Young travellers (50%) are the dominant group in this sample, followed the middle-age group (38%) and senior travellers (12%). Regarding travel purpose, business traveller and leisure travellers are evenly split in the sample. Fewer passengers were travelling in groups (47%) than passenger travelling individually (53%). The participants also appear to possess high education qualifications with 6% diploma holders, 62% university degree and 32% master's degree holder in the sample. 44% of the participants earn a monthly salary of less than \$1950 per month, and the other 56% has a monthly income of \$1950 or higher. The average airside dwell time of the participants is 58 minutes.

Table 1 Basic Sample Characteristics of the sample ⁽¹⁾

Gender	Male (19), Female (15)
Age	<20 (2), 20-30 (15), 31-40 (8), 41-50 (5), 51-60 (3), ≥ 60 (1)
Travel Purpose	Business (17), Leisure (17)
Travel in a group	Yes (16), No (18)
Qualification	Diploma (2), University degree (21), Master's degree (11)
Income (USD per month) ⁽²⁾	< \$980 (9), \$980-\$1949 (6), \$1950-\$2999 (5), ≥ \$2950 (14)
Average dwell time	58 minutes

⁽¹⁾ The unit measured is in the number unless stated otherwise

⁽²⁾ Converted from participants' local currency

Findings*

Interview analysis

Based on the interview result alone, we found passenger generally utilise one of the four strategies when they are planning time with regards to shopping in the airport terminal. The summary of these four strategies is listed below in Table 2. The first group of passengers (12) are not interested in airport shopping. They would prefer to skip shopping at the airport entirely. The second group of the participants (14) spends their time and carry out activities in the airport only as pre-planned. The third group of participants (2) partially planned their time and activities, but they are willing to move around the airport to find something interesting to kill time. The last group of the participants (6) simply has no prior plan about their time and activity at the airport.

Table 2 Summary of shopping strategy

Type of Strategy	Number	Main characteristics
Non-shopper	12	Male (6), Female (6), Business (9), Leisure (3)
Completely planned shopper	14	Male (10), Female (4), Business (6), Leisure (8)
Partially planned Shopper	2	Male (1), Female (1), Business (0), Leisure (1)
Unplanned shopper	6	Male (2), Female (4), Business (1), Leisure (5)

Eye-tracking video processing

The data from the eye tracker consists of the world video and the data of the eye movement. This data was recorded directly on a mobile phone that had been provided to passengers. A total of 15.5 hours of video was recorded. To capture what a participant is looking at, the eye tracker has a forward-looking video camera (world camera), and two cameras (eye camera) to record the pupil movement (Fong et al., 2016). An offline calibration was conducted to synchronising these videos to provide an integrated video to show participants' gaze and fixation. We adopted the outdoor offline calibration process as it was conducted in an actual airport environment. (Evans et al., 2012, GmbH, 2020). The quantitative data set (with the log-files and videos) enabled us to check the facilities within the visual field of participants and what information was visible to them, as demonstrated in Figure 1.



Figure 1 Participant's vision

Integrated analysis

The author then watched the integrated video. The author paid particular attention to the participant's actual movement, and comparison was made to the self-described strategy highlighted in Table 2. Passenger's movement was recorded in detail (i.e., shop visited, duration) in an excel file. Every video was at least watched twice to ensure the accuracy of the recorded movement. With the survey and interview, it was possible to compare the participants disclosed shopping strategy, preferred shop type against their actual movement and shop patronage. A summary is provided in Table 3 below. The movement behaviour of passengers corresponds to their shopping strategy within the airport retail environment.

Table 3 Movement behaviour based on video observation

Type of shopper	Movement behaviour
Non-shopper	Move to a rest area or the departure gate immediately
Completely planned shopper	Visit facilities strictly according to pre-designed plan and have pre-defined routes
Partially planned Shopper	Have a plan to visit specific shops but would be attracted to visit other shops
Unplanned shopper	No specific plan, shops within the closest visual range get the most attention and resulting in a higher chance of visiting

This integrated analysis confirmed the existing literature that shop location is crucial (Graham, 2009, Martel, 2009). The analysis also found that shops with more prominent signage also increases the passenger's likelihood of visiting. During the analysis, we found that shops that are closer to the entrance point with more prominent signage and at the front part of the terminal attract the highest footfall. Even though seven participants indicated that they would like to visit the book store in the 1st of the survey, none of them visited the book store. One of the potential reasons is that book store is located in the rear part of the terminal. With limited dwell time and knowledge about the terminal, the bookstore is less likely to receive patronage despite passenger's initial preference.

Original/value*

This exploratory study brings three significant benefits. First, the use of eye-tracking in an actual live airport environment with real passengers is still a novel approach in terms of data collection. Secondly, it highlights that passengers with different strategies have corresponding movement patterns. With clearer signage and a more accessible location, shops can expect higher footfalls. Last and most importantly, the highlighted movement pattern through this exploratory study opens up a potential avenue for passenger shopping behaviour modelling with a verified and more accurate primary data. Memory recall is not a challenge in this exploratory study as live data was recorded through the eye tracker. For example, given unplanned shopper's higher tendency to visit the nearest shop, it is likely that a gravity-based shopping behaviour model similar to Crask (1979) could be more appropriate to model this type of passenger's movement.

Research limitations and outlook

While we aim to deepen our understanding of passenger shopping behaviour within the airport retail environment, there are several limitations to this study. First, the mobile eye-tracking study is very time consuming to both conduct and analyse; thus, the exploratory study is limited by its sample size. Second, this study was conducted only in one location with a limited sample size; more studies across multiple locations with a bigger sample size would be ideal for validating our findings. Finally, a validated passenger shopping behaviour model unlocks the opportunity for future scenario studies on two key aspects: passenger behaviour and terminal space design. This is especially important given that passengers have limited dwell time and airports have limited space, so the airport has to utilise these limited resources while trying to maximise their sales opportunity.

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Keywords*

Airport Retail, Shopping Strategy, Passenger Movement, Eye Tracking, Passenger Shopping Behaviour,

THE ROLE OF TRUST IN ONLINE SHOPPING – AN INTERNATIONAL PERSPECTIVE

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Introduction

In recent years, the number of consumers shopping through the internet has increased steadily, which led to the growing importance of digital distribution channels for firms in a huge number of industries. Advances in information and communication technologies have facilitated the development of digital channels and e-commerce. Thus, shopper behavior has changed (Teller *et al.*, 2019), with trust playing a central role in the online shopping behavior of consumers (Kim and Peterson, 2017). However, online trust was found to differ considerably from offline trust (Bart *et al.*, 2005). Furthermore, in a world that is increasingly globally integrated, an international approach to the topic is promising.

Purpose*

Consumer trust is a vital consideration for the success of digital distribution channels. In the online environment, the building of trust poses a challenge to firms, as trust plays a more critical role in digital distribution channels in comparison to the traditional retail environment. The website is the communication interface with the customer, and direct contact between firm and customer is lacking, raising issues of security and risk. Thus, this study investigates antecedents of consumer trust in online shopping based on the technology acceptance model (Davis, 1989), and the effect of trust on purchase intention in two different countries, i.e. Austria and the Republic of Moldova. Austria is an advanced industrialized market and a member of the European Union (EU). Moldova is a member of the Central European Free Trade Agreement (CEFTA) and has a mixed economic system that includes a variety of private freedom, combined with centralized economic planning and government regulation (Michigan State University, 2020). While numerous studies of trust in online shopping are available either in advanced or in emerging markets (e.g., Bianchi and Andrews, 2012), only few studies have employed a perspective across different markets (e.g. Ashraf *et al.*, 2014). Thus, this paper contributes to the literature on trust in online shopping by contrasting both advanced and emerging markets in one empirical study.

Conceptual framework

In contrast to offline trust, online trust focuses on the Internet, the website or the technology. The website of a firm can thus be regarded as a store when it comes to the development of consumer trust (Bart *et al.*, 2005). Trust can be defined as “a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviors of another” (Rousseau *et al.*, 1998, p. 395). This definition has been widely accepted in the literature (e.g. Bart *et al.*, 2005). Our study is based on the technology acceptance model (TAM) by Davis (1989) and other theoretical considerations (e.g. Mayer *et al.*, 1995; Gefen *et al.*, 2003; Weng, 2015). We consider consumer experience, perceived company reputation, perceived website quality and perceived security as antecedent factors of building trust (H1-H4). Furthermore, we investigate the role of perceived risk, assuming that trust in online shopping reduces perceived risk (H5), which is important as perceived risk reduces consumers’ purchase intention (H6). Finally, we hypothesize that trust in online shopping has a positive influence on consumers’ purchase intention (H7). This leads to the following hypotheses:

- H1: Experience has a positive influence on trust in online shopping.
- H2: Perceived reputation has a positive influence on trust in online shopping.
- H3: Perceived website quality has a positive influence on trust in online shopping.
- H4: Perceived security has a positive influence on trust in online shopping.
- H5: Trust in online shopping has a negative influence on perceived risk.
- H6: Perceived risk has a negative influence on purchase intention.
- H7: Trust in online shopping has a positive influence on purchase intention.

Design/methodology/approach*

We test our hypotheses employing a quantitative, survey-based approach using an online questionnaire. A random sample among consumers in the two countries of Austria and Moldova yielded a total of 602 usable responses. 397 responses came from Austria, and 205 from Moldova. For construct measurement we adopted scales that had been previously validated in the literature. We used five-point Likert scales ranging from 1=“strongly disagree” to 5=“strongly agree”. In order to test our hypotheses, we analysed our data through structural equation modeling, particularly PLS path modeling. It is a multivariate data technique widely applied in the academic literature. This choice is based on the advantageous suitability when predicting and testing theoretical frameworks with complex structural models. Our PLS-SEM analysis includes the evaluation of the measurement model and the assessment of the structural model (Hair *et al.*, 2019).

Findings*

We evaluated the measurement model following the procedure suggested by Hair *et al.* (2019). Two items of the construct risk perception had to be eliminated because of loadings under the critical threshold of 0.4. All other factor loadings exhibit sufficient levels of convergent validity. Furthermore, all AVE values are at or above the critical value of 0.5, which underlines convergent validity. The next step was the assessment of internal consistency reliability, which is measured through composite reliability and Cronbach’s alpha. The composite reliability of the total sample ranged from 0.85 to 0.97. Although Hair *et al.* (2019) mention reliability values above 0.95 could be problematic, the authors emphasize that there is only one construct above this threshold. Furthermore, all constructs of the total sample exhibit sufficient levels of Cronbach’s alpha values exceeding the minimum

level of 0.7. Next, the authors employed heterotrait-monotrait (HTMT) ratio of correlations for discriminant validity assessment (Henseler *et al.*, 2015). Five values of the total sample are above the threshold value of 0.90, however the inspection of the Austrian and Moldova measurement model shows all values within the acceptable range. Hence, the authors decided to move on with the evaluation of the structural model.

The assessment of the structural model involves the coefficient of determination (R^2) and the path coefficients for evaluating of the statistical significance path coefficients based on the bootstrapping procedure with 5000 subsamples. The results of the structural model of the total sample reveal that perceived company reputation ($p=0.508^{***}$), perceived security ($p=0.220^{***}$) and perceived website quality ($p=0.189^{***}$) have a positive influence on consumer trust in online shopping ($R^2=0.834$). Thus, H2, H3 and H 4 are supported. The relationship between consumer experience and trust in online shopping (H1) could not be supported ($p=0.065ns$). Furthermore, the positive effect of trust on purchase intention became evident ($p=0.824^{***}$; $R^2=0.670$), leading us to support H7. We also analyzed the role of perceived risk and found support for the negative relationship between trust and perceived risk ($p=-0.199^{***}$) as well as perceived risk and purchase intention ($p=-0.054^*$), supporting both H5 and H6.

Finally, we employed PLS Multi-Group Analysis (PLS-MGA), a non-parametric significance test for differences of group-specific results. The difference between groups is significant if the p-value is smaller than 0.05 or larger than 0.95 (SmartPLS, 2019). Thus, a significant difference between Austria and Moldova according to the influence of experience ($p=0.0029$) and perceived website quality ($p=0.9963$) on trust in online shopping is observed. In the Austrian subsample, experience does have a positive influence on trust as opposed to a non-significant path of the relationship in the Moldovan sample. In Moldova perceived website quality has a positive influence on trust, as opposed to a non-significant path in the Austrian subsample. All tables are available from the authors upon request.

Original/value*

In a globalized economy, the importance of digital channels has been increasing steadily, and at the same time the dynamic environment of the firm is changing constantly. Thus, up-to-date studies are necessary to investigate the central construct of consumer trust in online shopping in various settings to account for potential differences across markets. This study proposes a conceptual model of antecedents and consequences of consumer trust in online shopping and tests this model in two markets characterized by different institutional contexts. The results of the empirical analysis support a number of hypotheses and show differences across markets, thus advancing the literature on services marketing and international business. Given the paucity of cross-national empirical studies on trust in an online shopping environment, this paper contributes to the literature by identifying specifics regarding advanced vis-a-vis emerging markets.

Practical implications

For firms engaging in e-commerce it is central to keep the promises made and to enhance trust in order to increase sales through their online stores. Thus, building company reputation through measures such as external communication and facilitating word-of-mouth is advisable. Firms can further increase consumer trust by investing in the quality of the website as well as highlighting perceived security by securing data protection, especially in terms of payment. Trust can also serve as a means to decrease perceived risk among consumers and

reduce negative effects of risk in terms of purchase behavior. For customer experience, managers should take a differentiated view, as it varies significantly between markets.

Research limitations and outlook

We have not yet tested for measurement invariance, which we plan as the next step in the further development of the paper. We employed a cross-sectional research design; however, a longitudinal study would be an interesting avenue for future research. The empirical setting of the study included a Western European country representing an industrialized, advanced market, and an Eastern European market in the status of transition. Future research could incorporate consumers in other European or non-European markets, further contributing to the generalizability of results. Finally, although our sample included people from all age groups, there is a slight bias towards younger people.

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Acknowledgements

We cordially thank Elisabeth Brugger and Ana Slanina for their assistance in the data collection. Furthermore, we are tremendously grateful to Prof. Marta Frasquet and Prof. Christoph Teller for their valuable support.

Appendix

Keywords*

Trust, online shopping, consumer perceptions, international, purchase intention

ADEQUATE PRICING, USING BRANDING ELEMENTS

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Structured Abstract

Purpose—Because consumer goods manufacturers and retailers operate in highly competitive environments, their market survival requires them to offer products at reasonable prices. Furthermore, using advertising leaflets and targeted marketing elements provides channels and opportunities to promote high-quality products at appropriate prices. Therefore, through an investigation of the retail furniture industry, this article proposes and develops an operationalization of key branding elements in advertising leaflets.

Design/approach—This study uses real data gathered from the German furniture industry and an empirical investigation of optimal designs for the layout of advertising leaflets, with regard to presenting price information.

Findings—Both manufacturers and retailers in the consumer goods industry can design ads specifically to enable them to charge lower or higher prices. To develop these designs appropriately, they should conduct company-specific analyses, which offers a complement to cross-company perspectives.

Originality— This study introduces a clear operationalization of advertising leaflets and the branding elements contained therein. In contrast with prior research, this article presents a comprehensive consideration of the activities represented by advertising leaflets, from the

point of view of the companies conducting the advertising. In addition to a cross-company analysis, this study provides an in-depth consideration of the respective companies, as real-world example.

Keywords

branding strategy; consumer goods; retail market; path analysis; advertising leaflets

Introduction

Manufacturers and distributors of consumer goods function in highly competitive environments (Malysheva *et al.*, 2016; Zaki *et al.*, 2019), due to market saturation, variety-seeking behaviours and preferences among consumers (Baltas *et al.*, 2016; Jeong and Drolet, 2016; Rubio *et al.*, 2019; Yanine *et al.*, 2019), and so forth. Therefore, it has become increasingly important for both manufacturers and retailers to bind potential customers to their companies and product offers, so that they can ensure their long-term survival in the market (Aktepe *et al.*, 2015; Szwajca, 2016; Ly and Loc, 2017). To do so, many firms rely heavily on branding elements, including price strategies (Brexendorf *et al.*, 2015; Olbrich *et al.*, 2017), which they might present through various advertising channels, such as leaflets.

By branding products, the sellers (both manufacturers that own the brands and retailers that stock them) can achieve several notable benefits. In addition to signalling high, consistent product quality, branding helps the sellers differentiate themselves effectively, through their dedicated branding efforts (Pepe *et al.*, 2012; ter Braak *et al.*, 2013; Davcik and Sharma, 2015; Geyskens *et al.*, 2018). In addition, manufacturers of branded products, which appear in the retail locations of companies at the commercial level, can join indirect sales structures, which should support product cross-sales. Yet it also is increasingly difficult for manufacturers of branded products to position themselves prominently in retail market spaces, due to

high levels of saturation, especially if those brands are less appealing or recognisable to potential buyers than competitive retail brands are.

In addition to branding as a means to bind customers to a seller, they might identify price levels as a form of connection, assuming the required price meets their expectations (David *et al.*, 2017; Han *et al.*, 2017). Specifically, customers require products that have sufficient quality for the demanded price level, or else they demand that possessing these products grants them a sense of social standing that also might justify the price (Zheng *et al.*, 2012; Gutsatz and Heine, 2018). Manufacturers and retailers of consumer goods can only remain in the market in the long term if they succeed in justifying the prices they charge for their products.

In this context, this study seeks to identify and clarify how a company that manufactures or distributes high-value consumer goods should position itself in the specific contexts of advertising leaflets and in relation to its branding policy. In particular, this study asks, Is it possible, according to a chosen brand strategy, to derive the price level that the company should charge in exchange for its products?

To answer this question, the first step is to establish a clear operationalization of advertising leaflets and the marking elements that they contain. Using this operationalization, it then becomes possible to examine which design features, in the context of this advertising approach, determine the appropriate, targeted price level. From this investigation, this article derives specific, concrete implications and recommendations for how brand elements, including the brand name and logo, should be shaped, how various design elements (e.g., the integration of children, adults, and older persons in a display) influence the effects of different branding elements and their use, and how the display itself should be designed. Therefore, the next section outlines the methodology, which leads into the empirical results in the following section.

Finally, this article concludes with a discussion of some limitations, suggestions for further research, and recommendations for appropriate actions in practical applications.

Methodology

The furniture industry is highly relevant to people's daily lives, and purchases of furniture generally evoke high levels of consumer involvement (e.g., Schoell *et al.*, 1990; Lamb *et al.*, 2017; Kimmel, 2018). Most consumers seek to meet their furniture needs by visiting retailers instead of the manufacturers' showrooms directly (Statista, 2018a; Statista, 2018b). Accordingly, these highly involved customers' preferences for specific brands likely are acquired through their experiences and product research, rather than formed *ex ante* (Thaichon and Quach, 2015; Chevtchouk *et al.*, 2017).

This empirical investigation starts with a review of 89 advertising leaflets from five actual furniture retailers. The advertising leaflets were published between summer 2018 and summer 2019, and the collected leaflets advertised 3,909 products. The advertised products represent a wide range of different furniture. The cheapest product in the panel is a chair that costs € 29. The most expensive chair, on the other hand, costs € 1,499. The most expensive product in the panel is a wall unit that costs € 4,990. The cheapest wall unit, on the other hand, costs € 149.

The collected leaflets contain 1,259 ad presentations. The ads identify 81 different brands; some of them do not include any branding elements though. The five trading companies that published the leaflets together maintain 24 stores, all of which adopt a regional concentration strategy. These dealers are all located in North Rhine-Westphalia, the most populous federal state in Germany, so in a geographic sense, they compete directly with one another. This study only includes those dealers that provide comprehensive retail advice and services, such that it excludes furniture discounters, whose strategies generally do not align with

the goals of, and thus are not preferred retail partners of, manufacturers of high-end, branded furniture (Ngobo, 2011; Babita *et al.*, 2012).

To operationalize these advertisements in advertising leaflets, as the first step in the research process, this study begins with descriptive evaluations. Then, to deduce practical implications for designing advertisements that appropriately correspond with the price level charged for the advertised products, as the second research objective, this study performs path analyses. Specifically, path analyses offer statistical options for empirically testing the validity of complex causal relationships (Wright, 1921). They also are suitable for quantifying correlations and graphically representing the results of corresponding assessments (e.g., Lindenberg and Olbrich, 2018). With these approaches, the next section presents an aggregated consideration of all companies and their advertising; then a more in-depth consideration offers clearer insights into company-specific features.

Findings

Operationalization of Advertising Leaflets

To operationalize the uses of marking elements in the advertising leaflets, as well as integrate additional panel data, this study differentiates the variables represented by the panel data according to the objective of the examination, namely, whether they refer to branding elements within a display, the representation of persons in the display, or the display itself. The corresponding values then function as the exogenous variables in the path model. In line with the primary research objectives, the price offered is the only endogenous variable included in the model. Table 1 lists all the variables.

Variable	Description	Min.	Max.	Median
Branding Elements				
Size of branding elements	Size of branding elements in square centimetres	0.00	15.21	2.24

Brand name included	Whether the marker includes a brand name	0: no	1: yes	1: yes
Brand logo included	Whether the marker includes a brand logo	0: no	1: yes	0: no
Variety of colours in brand	How many colours the branding elements (name and logo) contain	1: one	3: more than two	1: one
Representation of Persons				
Number of male children	How many male children are present in an ad	0	1	0
Number of female children	How many female children are present in an ad	0	2	0
Number of male adults	How many male adults are present in an ad	0	3	0
Number of female adults	How many female adults are present in an ad	0	2	0
Number of older males	How many older men are present in an ad	0	1	0
Number of older females	How many older women are present in an ad	0	1	0
Display				
Position of display	Specifies the page in the leaflet on which the display is presented	1	21	7
Size of display	Size of a display in the leaflet in square centimetres	24.75	935.40	213.84
Number of products in display	Number of products advertised in one display at a time	1	11	3
Price				
Price	Specifies in euros at what price the product is offered	25.00	4999.00	499.00

Table 1: Description of the variables obtained from panel data

With regard to the marking elements, Table 1 reveals that the majority of sampled displays contain some branding elements, such that 72.8% of the ads in the panel feature such branding information. In particular, the brand name appears in 70.2% of the ads, though a brand logo exists in only 21.0% of the ads. With regard to the use of colour for the branding elements, most of the displays that feature marking elements rely on one or two colours, such that a little more than half (53.6%) of the ads contain solely monochromatic branding elements. Another 37.0% of the ads use dual-colour markers, and only 9.3% have elements that appear in more than two colours.

Featuring people in the advertisements is relatively sporadic: 63.5% of the products advertised do not show any people in the ad, using the advertised furniture. Another 27.6% of the advertising for these products includes only one person; 7.9% of the products are advertised with two people. More than two people appear in marketing for only 1% of the products. In addition, women are shown more frequently than men, and adults are shown more frequently than either children or older persons.

In terms of the combination of products, in approximately one-third of the displays (31%), a single product is featured alone. In 18.9% of the advertisements, two products appear together. Then slightly less than half of the advertisements, combined, include three (13.4%), four (11.9%), five (7.4%), six (6.4%), or seven (1.5%) products. Eight to eleven products are advertised in the remaining 10.0% of the displays.

These detailed findings and the corresponding values for the branding elements are relevant for deriving appropriate recommendations for action. Notably, branding elements conventionally are designed by the product manufacturer, then made available to sellers, retailers, and dealers of these products. The appearance of models and people in the ads similarly tend to be chosen and determined by the manufacturer. The manufacturers then provide the retailers with pictures of their products and the chosen models for use in their promotional activities, so they can decide how many people and pieces of furniture to include in their advertising. However, with regard to the price, in the panel used for this study, the retailer has exclusive rights to determine the precise amount. In Germany, a legal ban on vertical price maintenance prohibits manufacturers from pre-setting or establishing required prices for the dealers that sell their products (Schöning, 2015).

Influence of Marking Elements on Prices

For the second research objective, assessed on the basis of a path analysis, a necessary first step checks for multicollinearity among the variables that get integrated as the independent

variables in the path analysis (Godhue *et al.*, 2017; Olivoto *et al.*, 2017). The correlations of each independent variable with every other variable, assuming they feature high statistical significance and a relevant correlation coefficient that is greater than 0.2 (Chin, 1998), are detailed in Table 2.

	Size of Branding Elements	Brand Name Included	Brand Logo Included	Variety of Colours in Brand	Number of Female Children	Number of Male Adults	Number of Female Adults	Position of Display	Size of Display	Number of Products in Display
Size of branding elements	1	.529**	.209**	.301**	.280**	-	.275**	-	-	.326**
Brand name included	.529**	1	.334**	-	-	-	.247**	.564**	-	-
Brand logo included	.209**	.334**	1	.253**	-	-	-	-	-	-
Variety of colours in brand	.301**	-	.253**	1	-	-	-	-	-	-
Number of female children	.280**	-	-	-	1	-	-	-	-	-
Number of male adults	-	-	-	-	-	1	.368**	-	-	.356**
Number of female adults	.275**	-	-	-	-	.368**	1	-	.403**	.233**
Position of display	-	.247**	-	-	-	-	-	1	-	-
Size of display	-	.564**	-	-	-	-	.403**	-	1	.547**
Number of products in display	.326**	-	-	-	-	.356**	.233**	-	.547**	1

**: *p*-Value < 0.01

Table 2: Correlations of the independent variables in the path analysis

As these values reveals, many significant correlations emerge across the independent variables, and those correlations must be taken into account while conducting the path analysis, to ensure there is no distortion in the meaningfulness of the analysis. Using the variables

present in the data set and the correlations identified across them, it thus is possible to establish the structure of the path analysis, as depicted by the path model in Figure 1. All independent variables are included exogenously in this model and checked for their potential direct impact on the price charged for the products being offered.

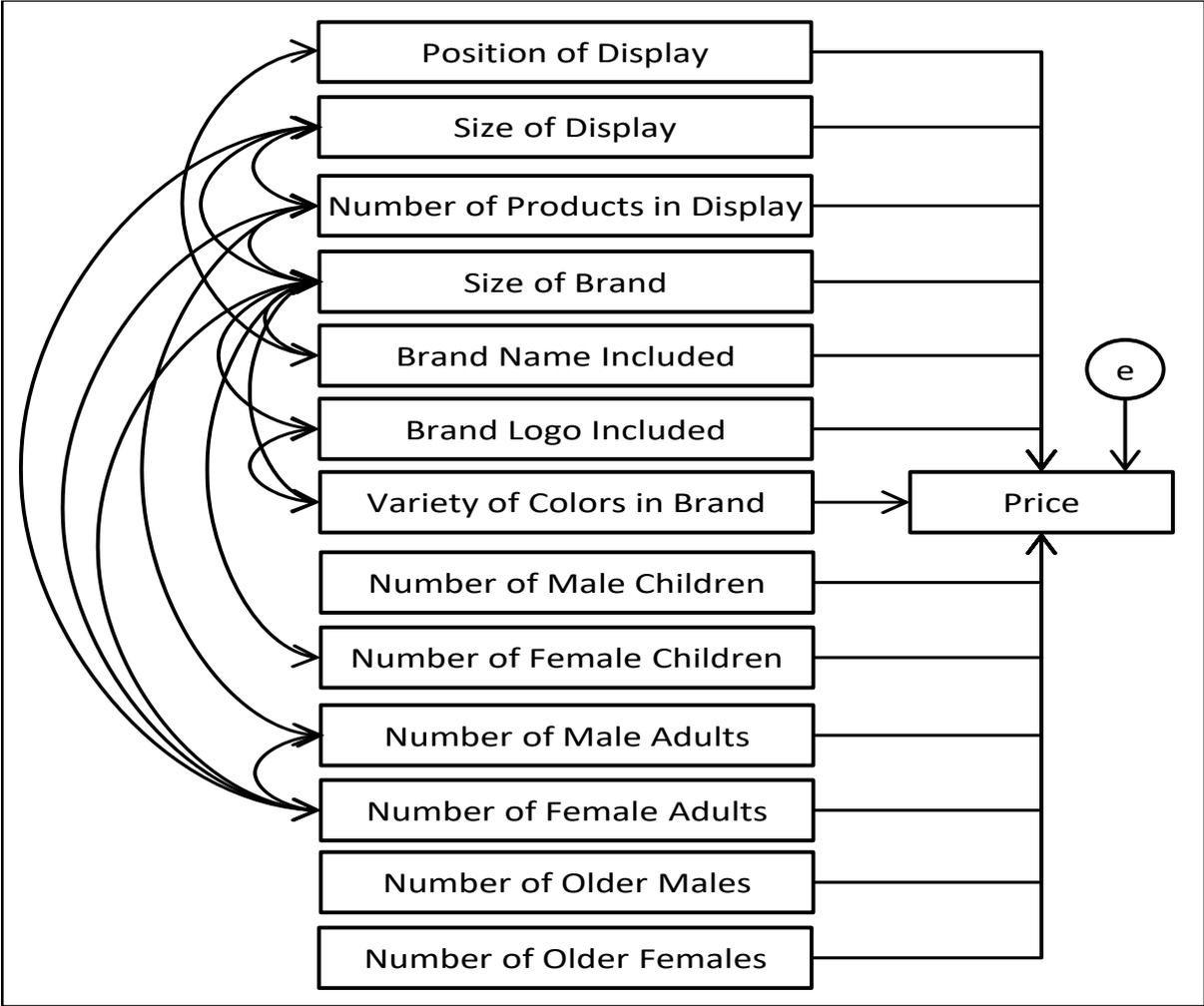


Figure 1: Path model for influences on charged prices

The coefficient of determination for this analysis is 22.5%. That is, approximately one-quarter of the variance in the price charged can be explained by the variables included in

the proposed model. The standardized path coefficients, which reflect the effect of these variables on the charged price, are listed in Table 3, which also contains the standard deviations, the value of the critical ratios, and significance values.

Variable	Estimate	Standard Deviation	Composite Reliability	<i>p</i>
Branding Elements				
Size of branding elements	.172	.117	22.232	***
Brand name included	.124	.021	33.724	***
Brand logo included	.169	.019	11.184	***
Variety of colours in brand	-.006	.035	43.671	***
Representation of Persons				
Number of male children	-.086	.004	1.736	.083
Number of female children	.110	.011	4.109	***
Number of male adults	.105	.015	6.842	***
Number of female adults	.111	.022	13.994	***
Number of older men	-.027	.003	1.416	.157
Number of older women	-.009	.004	2.006	.045
Display				
Position of display	-.195	.249	34.927	***
Size of display	-.067	9.073	31.979	***
Number of products in display	-.292	.112	29.292	***

****p* < 0.001.

Table 3: Effects of the exogenous variables on the charged price

All the variables that relate to the branding elements, as well as all of those that relate to the display itself, exert high statistical impacts on the charged price. However, statistically significant impacts emerge only for about half of the variables that pertain the persons represented in the displays. The number of products in a display and its position within the advertising leaflet have the most negative impacts on the price charged, whereas the strongest positive influences on price are the variables that represent the size of the branding elements and whether the brand logo is included. In contrast, representations of persons, in those cases in which they reach statistical significance, exert comparatively small influences on the price charged.

In support of more specific considerations, this investigation next evaluates the results individually for each of the five companies represented in the data set. That is, the aggregated perspective adopted thus so far, which considers all companies together, is abandoned for this analysis. The coefficient of determination, obtained from the preceding model, results in the company-specific values shown in Table 4. Then the standardized regression coefficients that result from the company-specific analysis are listed in Table 5. For influences that fail to achieve high statistical significance, this information is omitted.

Coefficient of Determination	
Company 1	.364
Company 2	.315
Company 3	.191
Company 4	.314
Company 5	.185

Table 4: Coefficients of determination for the company-specific consideration

These results reveal that the degree of determination is the weakest for companies 3 and 5. For company 5, the advertising leaflets are substantially different in a key respect from the leaflets published by the other companies, in that it displays prices for the products in quite small font. Also, rather than the overall prices, it highlights the monthly payments to be paid, such that it places more emphasis on financing the furniture purchases. This approach suggests a trend toward targeting financially less wealthy consumers. In turn, this company likely endeavours to demand and obtain both lower and higher prices, depending on the targeted consumer segment, as evidenced by the high variability in the observed variables. For company 3, which reveals a similarly weak coefficient of determination, the explanation differs, reflecting a unique trait that marks this company, in terms of the products that it offers. The other companies in this data set each sell furniture from various, different manufacturers,

but at least in its leaflets, company 3 exclusively advertises products sold and manufactured by a single manufacturer, which also owns the retail channel. That is, the advertised products and brands featured in this case are wholly owned by the identified retail company.

Variable	Estimate				
	Company 1	Company 2	Company 3	Company 4	Company 5
Branding Elements					
Size of branding elements	.322	-.191	.234	.127	.130
Brand name included	.040	.341	-.089	.149	.129
Brand logo included	.163	.215	.188	-.008	.124
Variety of colours in brand	-.023	.062	-.017	.083	-.029
Representation of Persons					
Number of male children	n. s.	-.086	n. s.	-.093	n. s.
Number of female children	.072	.244	.112	-.053	.088
Number of male adults	.089	.070	.085	.074	.029
Number of female adults	.101	.090	.199	.010	.085
Number of older men	n. s.	n. s.	n. s.	n. s.	-.028
Number of older women	n. s.	-.038	n. s.	n. s.	.001
Display					
Position of display	-.084	-.083	-.143	-.399	-.146
Size of display	.065	.239	-.068	-.042	.068
Number of products in display	-.476	-.451	-.175	-.299	-.340

n. s.: no statistical significance

Table 5: Company-specific effects of the exogenous variables on the charged price

According to these values, the results emphasize the need to adopt company-specific considerations to classify and understand the aggregated results from the cross-company analysis. With regard to the branding elements, these findings also reveal that size constitutes a critical consideration; the size of the branding elements exerts a unique, specific influence on the price charged. With regard to the representation of persons in advertisements, the findings of the company-specific analysis align with the finding from the aggregated assessment, in

that it does not exert a significant influence on the price charged. Finally, for the displays themselves, the results reveal that the number of products being offered simultaneously by the presentation of the ad has a significant and negative impact on the price charged for that product.

Implications for Manufacturers and Retailers

This study suggests valuable approaches to assessing brand strategies when they involve the use of advertising leaflets, which are common marketing channels for various firms in consumer goods industries, such as the furniture industry. Both retailers and manufacturers can take valuable insights from these findings, regarding how they should design their advertisements, both in collaboration and separately. Manufacturers should provide retailers with promotional material that matches the price level that the retailer charges for their products. In turn, retailers should design advertising leaflets in such a way that they appeal to and address target and potential customers appropriately.

The empirical investigations reported herein indicate that the provided operationalization of advertising leaflets is suitable for identifying dependencies between the use of branding elements and the charged price level. Depending on the price to be charged, companies can use this operationalization to design their advertising leaflets. In particular, they should adopt comparatively large branding elements to advertise products for which they charge high prices. Both brand names and brand logos should be included in the displays. However, it appears to be irrelevant, with regard to the appropriateness of charging lower or higher prices, whether the branding elements feature one, two, or more colours.

Moreover, the advertising can dispense with representations of people using the furniture, because their presence or absence, as well as the number, ages, and genders of the people being displayed, do not have sufficient influence on the prices of the advertised products to

justify the additional expense of hiring models to appear in the advertising. If the manufacturer insists on including people in the advertising, it is advisable to charge higher prices when the display features female children or adult women.

Regarding the displays themselves, high prices are associated with fewer products featured within a single display. The position of the advertisement in the leaflet also should be as close to the front as possible, if the retailer hopes to charge high prices for the advertised product.

Limitations and Further Research

A weakness of this study arises because the investigated panel offers a limited representation of, with limited insights into, the consumer goods industry. Even if just considering the furniture industry, this study purposefully excludes discount chain stores, which usually feature lower priced product ranges and also account for a significant portion of the market. Further investigations thus should expand the market coverage, to help manufacturers determine how they might tailor their branding strategies appropriately to achieve more market coverage.

Another limitation results from the analytical focus solely on advertising leaflets. To gain insights into broader advertising implications, it may be worthwhile to include online offers by retailers in related evaluations. To increase the representativeness of the study, another worthwhile research extension might explicitly compare and highlight the differences between advertising in leaflets and advertising through in online offers. These differences might make it possible for a retailer to target different groups, perhaps segmented according to their willingness to pay, more accurately. The manufacturer then could differentiate its offer too and provide retailers with different products that it knows will appeal to distinct target groups.

Finally, this analysis does not measure or account for the success of the advertisements. Thus the results cannot specify which products sold more often, at which prices, due to

the advertising effects of the leaflets. Integrating such values in further investigations could reveal which prices are more widely accepted by customers—and which ones are rejected.

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