8th COLLOQUIUM ON EUROPEAN RESEARCH IN RETAILING (CERR)

BOOK OF PROCEEDINGS

Abstracts and articles presented at the 8th CERR

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About the 8th Colloquium on European Research in Retailing (CERR)

HISTORY: The idea to establish a platform for European retail researchers who focus on marketing and operations was born in 2010 at a conference in France. The founding members consist of Professors Xavier Brusset (SKEMA Business School, France), Herbert Kotzab (University of Bremen) and Christoph Teller (University of Surrey, UK) - for more details see below. The inaugural edition of the Colloquium on European Research in Retailing (CERR pronounce /'s3:(r)/) occurred in Paris in 2012. Thereafter, two more bi-annual events have taken place – CERR 2014 at the University of Bremen and CERR 2016 at Toulouse Business School. The 2018 edition took place at Surrey Business School, Guildford. The latter editions moved to Valencia, Spain in 2020 and then to Zagreb, Croatia in 2022.

Since the first edition, the **International Journal of Retail & Distribution Management** has supported the CERR's effort by offering to publish special issues with the best papers submitted to the colloquium. Its Editor in Chief, **Professor Neil Towers** has proved a staunch supporter.

The founders' focus ever since has been that CERR creates a collegiate environment that sparks ideas, initiates discussions and establishes networks within the retail community in Europe and beyond. Currently, the founding members represent the senior advisory board of CERR and ensure that its key values are reflected in each edition of the colloquium.

VISION: CERR inspires and enables a better, more effective, collegiate retail research community in Europe and beyond. In doing so, CERR 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[1]: CERR is built on the following values.

[1] Detailed description of each values can be viewed here, https://cerr.sciencesconf.org/resource/page/id/14

School of Strategy, Marketing and Innovation

Faculty of Business & Law

From Prof. Giampaolo Viglia (Associate Head, Research & Innovation)

Dear colleague,

In my quality of Associate Head of Research and Innovation, it is my great pleasure to welcome you all to the 2023 Colloquium on Technology, People, and Sustainability: Shaping A Better Retail Future. As the Associate Head of Research and Innovation of the School of Strategy, Marketing and Innovation at the University of Portsmouth. In a world where change is the only constant, the retail industry is experiencing seismic shifts, particularly in technology, people, and sustainability. Retailers worldwide are navigating the fine balance between technological advancements and the human touch.

While some argue that the sector has become heavily technologicalized and sparsely humanized, others advocate a subtle reversion to humanized service and experiences to enhance customer loyalty. These thought-provoking perspectives necessitate further exploration to shed light on what the future of retail may look and feel like. Any discussion on the future of retail would be complete by considering the paramount importance of sustainability. With the UN Sustainable Development Goals as our guiding principles, addressing topics such as responsible consumption and production, climate action, and partnerships for the goals becomes crucial in shaping a better future for the retail industry.

The rationale outlined above sets the stage for the 2023 Colloquium, where we aim to foster open and constructive dialogues on the technological, human, and sustainable changes that retailers face worldwide. Through these discussions, we strive to gain a comprehensive understanding of how these interrelated changes will collectively shape a better retail future. Once again, I extend my warmest welcome to every one of you. Let us embark on this intellectual journey together, exploring the possibilities at the nexus of technology, people, and sustainability in the retail industry. May this conference be a platform for meaningful collaborations, enlightening discussions, and the generation of ideas that will pave the way for a brighter and more sustainable future for retailers worldwide.

Thank you.

Giampaolo

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Shopper/consumer behaviour and marketing

AN EXPLORATORY STUDY ON ONLINE LURKERS

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Lurking, Social Media Engagement, Social Learning, Consumer Segmentation, Skincare retailing

Introduction

Members within an online community can be divided into two main categories: posters (who contribute to the content that has been posted and/or create their content) and lurkers (who visit but do not contribute to the content that has been posted) (Lai & Chen, 2014; Yesiloglu et al., 2021). These two memberships are disproportionally distributed, and many researchers describe the distribution using the 90-9-1 rule. Specifically, it explains how 90% of online users will just read content (lurkers); 9% may alter content; and 1% actively contribute new content or as stated differently, only 10% of which are posters within an online community (Garfield, 2020; Carron-Arthur, 2014). Accordingly, it explains why retail marketing academics and practitioners have devoted efforts to identifying and profiling lurkers with the aim of effectively targeting and converting them into posters (Bishop, 2007). Like-minded academics and practitioners believe that converting lurkers into posters is crucial to improving users' engagement and monetizing content online (Pattabhiramaiah et al., 2019)

Purpose

The approaches employed by retail marketing studies hitherto to examine lurkers' participation behaviour online are frequently—and unfairly—oriented towards a *visible action* perspective, focusing on easily measurable activities like the frequency and number of posts, likes, comments, and shares (Nonnecke & Preece, 2001; Sun et al., 2014). Hardly any retail marketing studies have considered lurkers' participation based on what they do covertly or passively and less measurable activities like reading, observing, and digesting content online. Retail marketing academics and practitioners consistently view covert actions as unproductive, unbeneficial, or undesirable behaviours (Edelman, 2017). However, when viewed from *a social learning perspective*, the same activities can be considered intellectual

and value-adding to the consumers and the providers of online content (Muller, 2012; Chen & Chang, 2011). For instance, browsing the content posted by other online users, either casually or carefully, may develop one's interest in or strengthen their knowledge of a product (Reed et al., 2010).

Examining lurkers' online activities from an integrated perspective, coupling behavioural and passive engagement with social learning, may yield a more holistic understanding of why and how lurkers lurk compared to when only one perspective is considered. This integrated perspective is yet to be explored as retail marketing studies have mainly measured lurking with visible and measurable participation activities. For example, some scholars (Koh & Kim, 2004; Lee et al. 2006) emphasise posting and creating content as the most meaningful criteria for measuring lurking. Accordingly, lurking has been treated as a negative online behaviour and branded with negative labels like free-riders/free-loaders, invisible/silent users, passive users, and social loafing (Kollock & Smith, 1996; Edelmann, 2017).

The present study challenges the widely used active-participation perspective and measurement of lurking by favouring an integrated perspective and the notion that consumer behaviour manifests in varied forms. Besides considering the active and visible participation activities, the present study also embraces the less active and less visible participation activities like reading and digesting (Chen & Chang, 2011; Lee, et al., 2006). In brief, the present study aims to explore *1) the extent to which varied lurking behaviours exist, and 2) if they do, the extent to which varied lurker segments can be discerned.* Our exploration corresponds to the 90-9-1 rule proposed for an online community. That is, 90% of its users are lurkers (Garfield, 2020).

Methodology

The present study collected 600 online users' responses via an online survey supported by Qualtrics. The survey targeted regular skincare users that were aged between 18 and 74 years, resided in the UK, and had experiences with browsing for skincare products and related content online. We targeted the skincare industry for two key reasons: the prevalent existence of online communities created by brands and by users (Tiseo, 2019); and it represents one of the largest commercial markets around the globe, with its market value doubling up to £1.9 billion in 2020 in the past five years (Dover, 2020). Because skincare product categories are extensive, we focused mainly on the facial care category because i) it facilitated the recruitment of and data collection from social media users and 2) consumers' growing interest in facial health. That is, facial care is one of the most booming areas in the skincare market (Ahmed et al., 2020). The collected responses were subjected to exploratory and cluster analyses (Pallant, 2007).

Findings

As mentioned earlier, the present study's research aim is twofold, that is, to whether lurking consists of varied activities, and, accordingly, whether varied lurker segments exist. Our exploratory factor analysis's results identified that lurking consists of six distinct activities, involving a mixture of active and passive participation. This finding suggests that lurking is more complex and multifaceted than the retail marketing literature has reported. The varied activities can be theoretically branded as 'lurking orientation' to recognize the different

participation nature and intensity associated with online behaviour. It resonates with other behavioural orientation concepts like shopping orientation (Lumpkin, 1985) and novelty-seeking orientation (Lee & Crompton, 1992).

- *Commenting, Sharing, and Reacting* - the acts of commenting, sharing, and reacting (i.e., like/love/care/haha/wow/sad/angry) to the content posted by other online users.
- *Observing and Learning* - the acts of observing and learning content available online
- *Uploading* - the acts of uploading, editing, and creating content online.
- *Motivating uploader* - the acts of motivating others to post/upload content online while also uploading content themselves. These users can also be known as influencers.
- *Searching, Observing, and Reading* - the acts of searching for, observing, and reading content available online
- *Listening, Sharing, and Subscribing* - the acts of subscribing or signing up to online content whilst also listening to and sharing content published by other online users.

Our k-means clustering results revealed that online users could be grouped into four meaningful lurker segments based on the identified lurking behaviours. They are labelled as:

- *Ultimate (non-responsive) Lurker:* comprising of the largest membership (n=147), who frequently engages in searching, observing, and reading but engages less frequently in all the other activities.
- *Learning Lurker:* making up the second largest membership (n=131), that undertakes activities linked to observing, learning, searching, and reading more often and less in the other forms of activities.
- *Uploading/Influencing Lurker (Poster):* representing the third largest segment (n=112), is the opposite of the ultimate (non-responsive) lurker when it comes to participation in online activities. These uploading/influencing lurkers scored high across all activities, such as commenting, sharing, reacting, observing, learning, uploading, motivating, searching, reading, subscribing, and listening.
- *Sharing/ Reciprocating Lurker:* is the fourth largest segment (n=108) who undertake uploading and motivating others to upload less frequently than all the other activities. The sharing/reciprocating lurker scored high scores in all the online activities but uploading and motivating upload, and the most in sharing (hence, their name).

Originality/value

The present study makes several original contributions to the retail marketing literature. First, it takes the first step to identify lurking as an orientation (continuum) and inherent behaviour of online users and that involves varied natures and intensities. Past studies have mainly treated lurking as an optional behaviour that online users choose to undertake (or not undertake) and not considered as a pathway to content posting or creation. Second, the present study introduces the social learning perspective and establishes its utility to diagnose lurking and reveal new insights. Specifically, the social learning perspective reveals that observing, reading, and digesting information online can help develop one's knowledge about

a topic, clarify ambiguities about a product, and then, gear them up for a purchase decision via boosted knowledge and confidence. Lurking is not an idle and unproductive behaviour that past studies have theorized. It is instead a constructive and productive behaviour, cognitively. Third, the present study demonstrates the segmentation utility of lurking when it is construed as an orientation (continuum) plus social learning behaviour. We present four distinct meaningful lurker segments, highlighting the potential fallacy of treating lurkers as one homogenous group. Figure 1 illustrates the unique nature of the four lurker segments identified by the present study.

Figure 1: A pictorial representation of distinct lurker segments

Research limitations

The theoretical and empirical findings we have presented in this paper are insightful but require further validation due to several limitations. One limitation is that we do not consider other psychological factors (e.g., motivation, personality, etc.) that influence the orientation (continuum) formation and segmentation utility of lurking. Future research can identify and examine what psychological factors influence the formation of the lurking orientation and in turn its segmentation utility to enrich the findings presented in this paper. Another limitation is that we have mainly employed a cross-sectional design by collecting data in one temporal period from one online user group. Future research can consider a longitudinal design by examining the extent to which online users' lurking orientation shifts over time or a cross-cultural design by establishing the extent to which the same set of lurker segments prevalent in different cultures or countries, as online consumer behaviour is dynamic and not static (Ha, 2012).

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Keywords

Lurking, Social Media Engagement, Social Learning, Consumer Segmentation, Skincare retailing

TERRITORIALISING RETAIL: TOWARDS AN ALTERNATIVE SPATIALITY?

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Keywords

Retailing, Territory, Customer experience, Space, Place.

Introduction

Converging retail channels and the proliferation of customer touchpoints have had significant impacts on consumer behaviour (Barrera and Shah, 2023). Technological advances have allowed retailers to encompass otherwise interstitial space, merging physical with digital to offer 'phygital' environments to provide customers with immersive, interactive and distinctive experiences (Hänninen et al. 2021; Pangarkar et al., 2022). Sixty eight percent of consumers now seek out retailers that offer phygital experiences (Deloitte, 2022), and over 70% of retailers regard digital transformation as an essential part of retail's future (Wahi and Medeiros, 2023 - see also Barrera and Shah, 2023; Neslin, 2022; Rahman et al., 2022).

Such developments increasingly challenge traditional notions of retail *space* and *place*; specifically the confinement of 'place' to a particular location, delineated by finitude, boundary, function and materiality (Gieryn, 2000), manifested in a retail context in terms of where physical stores are sited, while 'space' has been likened to a "realm without meaning" (Cresswell, 2015:16), associated with online and virtual activities (Gieryn, 2000). In a retail context, the term 'space' is especially used to refer to the in-store selling area, such as in 'space allocation' and 'space planning' (Goworek and McGoldrick, 2015).

In retailing, the treatment of place and space almost as synonyms has arguably contributed towards a sense of nomenclatural ambiguity, especially with increasing channel multiplicity and customer touchpoints. Klaus and Kuppelwieser (2023) note that there remains a dearth of research exploring if - or how - customers use and experience different types of retail places and spaces, with implications for future retail predictions and conceptual developments (See also Pangarkar et al., 2022). Indeed, given the rapidly evolving retailing industry, scholars more generally are recognising the increasing gap between academic research and retail practice,

casting doubts on the saliency and alignment of traditional conceptualisations to ongoing developments (See Roggeveen and Sethuraman, 2018; Dekimpe and Geyskens, 2019; Hänninen et al., 2021). Consequently, more nuanced, contemporary and interdisciplinary theorisations are arguably required to help advance new retail and customer experience in meaningful ways (Picot-Coupey et al., 2016; Shi et al., 2019; Chevtchouk et al., 2021), not least in terms of the places and spaces where this activity occurs.

Purpose

In response to such calls, this conceptual paper introduces a territoriological perspective on retailing to offer a novel perspective on retail space and place in terms of a more fluid spatial retail 'territory'. By way of definition, territoriology (also referred to as territorology) refers to the theoretical and empirical science of territories and territorial formations (Brighenti and Kärrholm, 2020). The concept of territory has been widely discussed in various academic disciplines (i.e. political, biological, geographical, psychological and social and behavioural sciences - see Brighenti, 2010; Brighenti and Kärrholm, 2020), including the specific context of physical urban retail locations (Kärrholm, 2007, 2008, 2009).

However, Brighenti (2010:53) argues that territory is "not an absolute concept, but is better conceived as an act or practice rather than an object or physical space", that has both expressive and functional components. This means a territory is a result of human and institutional relations, having both spatial and relational implications, and that territorial boundaries become the object of an ongoing work of enactment, reinforcement, interpretation and negotiation (Brighenti, 2010:62). Taking such a territoriological perspective consequently changes the meaning of place as a site of consumption (Kärrholm, 2012), in that instead of restricting territory to material, fixed spatial entities (i.e. servicescapes, retail settings etc.), it can be considered as having much broader socio-material and relational attributes, consistent with recent technological and behavioural trends in retailing. Thus, when applied to a retail context, territories can become embodied spaces, in which social space and social action are inseparable, and part of a lived experience of people (Cohen, 2007), made, shaped, given meaning and de-and-re-territorialised in social and individual action (Paasi, 2003; Elden, 2013).

Consequently, retail territories can be considered as non-exclusive, overlapping and intersecting constructs whose shapes, characteristics and experiences are constantly being renegotiated. A shift has occurred from traditional separate, singular channels (i.e. 'places') to a convergence of on- and off-line and interstitial *spaces* of retail consumption (Lambach, 2019; Shi et al., 2019). This is consistent with the broader challenging of more traditional binary notions of space and place, manifested in conceptions of *third-place* (Oldenberg, 1989), *third-space* (Lefebvre, 1991), *progressive place* (Massey, 1987) and *re-place* (Rosenbaum et al., 2017). Massey for example, argues that places are marked by openness and change rather than boundedness and permanence. In the specific context of the fashion industry, Crewe (2013) argues for a recalibrated understanding of consumption practice, process, space and place within the surging collision, coalescence and coexistence of physical and virtual worlds. She calls for new theorisations, visions and vocabularies of time, space and knowledge to better reflect the relations between people and places. It is in this non-binary and non-bipolar (Crewe, 2013) sense of place that we ascribe the notion of territory in a retail context.

It is in such ‘hybrid' space that the notion of retail territory animates Deleuze and Guattari’s (1987) and Massey’s (1997) belief that territories are always places of passage. Thus, places are open, hybrid and dynamic, a result of interconnecting flows and mobility, which in doing so, contests the traditional notions of place as rooted, introspective and immobile (e.g. Harvey, 1996; Lippard, 1997). If territorialisation is, therefore, better understood as the process of inscribing and imbuing space with meaning and experience (Johnstone and Conroy, 2008; Elden, 2013; McIntyre, 2013; Cresswell, 2015) then in the context of retail, the conventional meaning of ‘place’ is unshackled from its physical confines (Ballantyne and Nilson, 2017). These (re-)conceptualised retail territories are neither reductionist nor determinist, but they are emplaced; that is, they happen somewhere and are ensconced with meaning, value and experience (Gieryn, 2000).

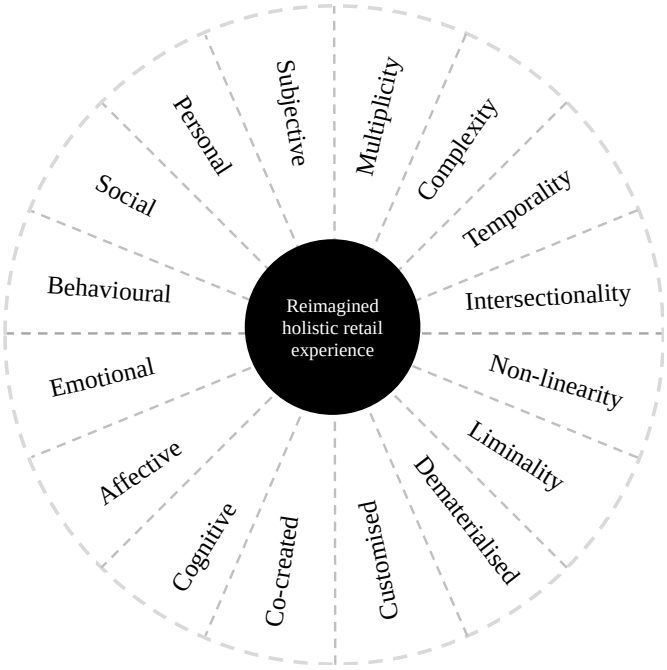
Methodology

This conceptual paper draws on a review of an extensive range of interdisciplinary literatures, including geography, urban studies and sociology, as well as the management, marketing and specific retail literatures. From these conceptual and theoretical antecedents, we advance conceptions of the reimagined retail customer experience - termed *Experiential Retail Territories*.

Findings

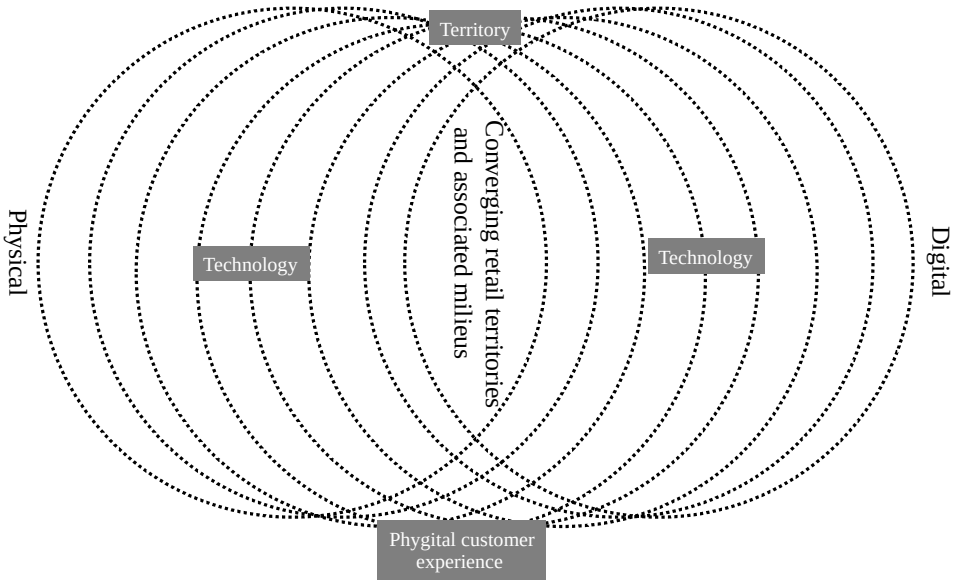
Our review of the existing literature on retail experience (e.g. Petermans et al., 2013; Lemon and Verhoef, 2016; Picot-Coupey et al., 2016; Ballantyne and Nilsson, 2017; Bolton et al., 2018; Grewal and Roggeveen, 2020; Babin et al., 2021; Mele et al., 2021) indicated that an imagined, more holistic customer experience could be described and characterised using numerous adjectives, including: *multiplicity* (of interacting channels), *complexity* (of management processes and structures), *temporality* (continually evolving online and offline presences), *socio-relationality*, *intersectionality* (through channel and touchpoint convergence), *non-linearity* (in the customer purchase journey), and *liminality* (of ‘new’ in-between spaces, such as for example, pop-up activities), to create *dematerialised* (beyond the physical), *customised* and *co-created* (between consumer, retailer, others) space, which can engender collective *cognitive*, *affective*, *emotional*, *behavioura*l and *social* customer responses to the retailer, which are *personal* and *subjective* and also time and context specific, generating hedonic (e.g. immersive) and/or utilitarian (e.g. convenience) customer value. All this arguably combines to create a reimagined holistic retail experience in ‘territories’ (both online and offline) that potentially enable new customer communities and representations, unbounded by spatial or psychic territorial boundaries (Ballantyne and Nilsson, 2017).

Figure 1: Reimagined holistic retail experience characterisation (author's own)



These amorphous physical and virtual retail environments can create what Moor (2003:41) terms "spaces of proximity" for consumers. Therefore, retail territories arise through processes of producing, maintaining and assigning these myriad spaces with meaning (Kärrholm, 2007, 2008). Notions of digital- or physical-first retailers are displaced by the idea of an integrated retail territory - fully blended (Bolton et al., 2018), and 'holistic' - as conceived in Figure 2.

Figure 2: Retail territories continuum conceptual schema (author's own)



Each circle represents a point on a continuum of convergence, orientated towards physical (to the left) or digital (to the right) spheres with complete coalescence and overlay in the centre. But importantly, these retail territories are not seen as singular entities but complex colliding, converging and conjunct spatialities and temporalities, and in this, the nature of the boundaries between these territories assumes importance. The experiential characteristics presented in Figure 1 overlay this continuum, with their relative resonance, dependent on the retailer's temporal spatial reality. Collectively, they encompass the fluidity, openness and mobility of the retail territories, including the porosity of their boundaries.

Brighenti (2010:60) notes that boundaries "are a constitutive prerequisite of territory", which can be 'drawn' in various ways. Given the converging and conjunct spatialities in this particular context, one concept that has explanatory utility is Deleuze and Guattari's notion of interior, intermediary, exterior and annexed *milieus*. Deleuze and Guattari state that "milieus pass into one another; they are essentially communicating" (1987:313); the implication being that milieus are not mutually exclusive and they blend into each other. Indeed, the ordering of the descriptions of the different milieus below reflects the expanding of the scalar extent of the nature of the space in question. Thus, the *interior milieu* constitutes the in-store environment, evident in the materiality of store design elements (e.g. fixtures/fittings etc.) and the visual and other corporate identity symbols that identify the retailer. The *intermediary milieu* constitutes the interface of the store with its immediate environs, thereby creating boundaries, which may be manifest in both material and performative ways. It denotes what Deleuze and Guattari term the 'membranes' that limit and mark the extent of the physical store 'territory'. The *exterior milieu* denotes the wider - usually urban - locale within which the store is located. Finally, the *annexed milieu* combines the materiality of the store with a potentially wider, virtual operation, recognising the increasingly multi- and omni-channel nature of the contemporary retail industry. Thus, retail experience potentially becomes more 'holistic', not only restricted to the physical territory of the physical store, but also incorporating a related digital experience in other retail channels which could be conceptualized as virtual territories.

Original/value

Despite rapid advances in retail research and practice, there is potential for further research concerning the physical store and customer experience management within an omnichannel context (Picot-Coupey et al., 2016; Becker, 2018; Grewal and Roggeveen, 2020; Grewal et al., 2021; Hänninen et al., 2021). This paper responds to recent calls to reimagine evolving retail places and spaces, and the multiplicity of novel, temporal and interstitial ways of experiencing retailing. *Experiential Retail Territories* offers an alternative theorisation to help inform a prognosis of future retail activity.

Practical implications

Practically, this alternative theorisation offers several implications for retailers. First, it challenges existing preconceptions of retailing as structural boundaried *space* (controlled by the retailer), to incorporate broader, social, temporal and relational perspectives resonant with *place*, which at the interface, offer new possibilities to experience, connect, consume and engage (Johnstone and Conroy, 2006, 2008; Rosenbaum and Massiah, 2011; Rosenbaum et al., 2017) within retail *territories*. Second, it highlights that not all retailers evolve at the same time or pace and that notions of digital- or physical-first retailers are displaced by the idea of an integrated retail territory continuum (Figure 2). Finally, these characteristics of the reimagined retail experience (Figure 1) provide a useful aid to retailers in assessing their current - and potential future - experience of their customers.

Research limitations and outlook

While this paper offers a new territoriological spatial lens to reimagine future retail activity in the conception of *Experiential Retail Territories*, it would benefit from further empirical enquiry. Specifically, recognising that differences may exist across sectors, contexts and cultures, future studies addressing these specificities would be worthwhile. We call for further research (incorporating both retailer and customer perspectives) on the exploration of the evolving interplay and coalescence of offline and online retailing and how it might enhance the effectiveness of customer experience, both in theory and practice.

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PRODUCT INFORMATION FAILURES ON WEBSITES AND THEIR IMPACT ON MOBILE SHOPPING BEHAVIOUR

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Purpose

The retail sector has evolved significantly towards being more online, with global online retail sales amounting to 4.9 trillion US dollars in 2021 (eMarketer, 2022). Online shoppers increasingly use mobile devices, with six out of ten online purchases conducted using smartphones (Statista, 2021). Mobile shopping offers new possibilities by providing a convenient and timely customer experience (Omar *et al.*, 2021; Canio *et al.*, 2022) as it has become the preferred retail channel (Saprikis *et al.*, 2018; Hagberg *et al.*, 2016). However, in the absence of being able to physically handle products, e-commerce consumers require high quality and accurate information to make the right purchase decision (Omar *et al.*, 2021), with 30% of shoppers abandoning their shopping carts due to insufficient or inappropriate information on websites (Baymard Institute, 2022). Consequently, mobile shopping websites lacking accurate information can lead to profit losses (Hamouda, 2021), negative word-of-mouth recommendations (Bitner *et al.*, 2000) and reductions in market share (Huang *et al.*, 2015; Tseng *et al.*, 2022). In this paper we therefore look at mobile e-commerce Product Information Failure (PIF). PIFs describe a category of online service failures in which information is incomplete or inaccurately displayed.

Existing research into online service failure has increased significantly over the last two decades (Holloway and Beatty, 2003; Forbes *et al.*, 2005), though there remains a paucity of information on product information in this context. Further, the extant literature has focused on online service failures via (static) desktop devices (e.g. computers) (Chen *et al.*, 2018; Roy *et al.*, 2022). As such there is a lack of literature concerning mobile devices and service failure (e.g. smartphones, tablets) (Narang *et al.*, 2021; Omar *et al.*, 2021).

This research makes the following contributions. First, we investigate the negative effects of PIFs on consumers attitude and behaviour in a specific m-commerce setting. Second, we differentiate six specific PIFs (missing product description, missing product image, missing original selling price, missing promotional savings message, incorrect pricing of a multi buy deal (i.e. multi buy deal is priced more expensive compared to single product costs) and a poor product rating) regarding customers perception and severity. Third, we evaluate the influence of the moderating variables: cause and duration of the PIF (i.e. attribution of controllability and stability), expectations towards the retailer after a PIF occurred and previous mobile shopping experience in general. Finally, our findings assist practitioners in understanding and consequently managing PIFs in mobile shopping environments.

Conceptual Framework

Providing accurate product information is a retailer's service. When a service does not meet the customer's expectation, a situation of negative feelings and negative behavioural consequences arise (Hess *et al.*, 2003; Holloway and Beatty, 2003). There are different expectation levels with which service performance is associated. First, there is a desired expectation level. When the service performance is above the desired level, satisfaction arises. Anything below the adequate level leads to a service failure (Zeithaml *et al.*, 1993). When there are PIFs in an online environment, the service performance is below the adequate level. To ascertain how far the delivered service performance is away from the desired expectation, measures of the severity of service failure are employed (Hess *et al.*, 2003; Smith *et al.*, 1999).

> **H_1:** The occurrence of a product information failure affects the perceived severity of the failure

2

H_2: Perceived severity of product information failure negatively influences shopping outcomes

Service failures have an impact on attitudinal and behavioural outcome variables (Bitner, 1990; Hess, 2008; van Vaerenbergh *et al.*, 2014; Wirtz and Mattila, 2004). Maxham and Netemeyer (2002) and del Río-Lanza *et al.* (2009) associate service failures with negative effects on overall customer satisfaction – findings consistent with expectancy-disconfirmation theory (Woodruff *et al.*, 1983; Zeithaml *et al.*, 1993; Oliver, 1980). Negative disconfirmation (service failure) happens if the delivered service is lower than the anticipated performance and the consumer feels dissatisfied (Woodruff *et al.*, 1983). Furthermore, customer satisfaction is an indicator for behavioural outcomes, including loyalty and word-of-mouth (Andreassen and Lindestad, 1998). Besides the satisfaction with the retailer and its online store, the attitude, i.e. an emotional reaction (MacKenzie *et al.*, 1986; Najmi *et al.*, 2012) towards the retailer is also a determinant for customer behaviour – something consistent with the theory of reasoned action according to Fishbein and Ajzen (1975). Attitudes towards the retailer and its brand impact on shopping outcomes, including purchase intention (Goldsmith *et al.*, 2000; Gresham and Shimp, 1985).

H_{3a}: Product information failures negatively influences (overall) satisfaction with the retailer`s online store

H_{3b}: The negative effect from product information failures on shopping outcomes is mediated through the (overall) satisfaction with the retailer`s online store

H_{3c}: Product information failures negatively influences the attitude towards the retailer`s brand

H_{3d}: The negative effect from product information failures on shopping outcomes is mediated through attitude towards the retailer`s brand

Our understanding of service failure in the context of product information provision is informed by two theoretical perspectives. First, information-gap theory addresses failures where there is missing information such as product descriptions or images. When customers feel there is a gap between what they know and what they want to know, they feel uncertainty and change their behaviour (Ben-Haim, 2019). Second, fairness theory also supports this assumption as when the customer feels that a service failure results in a situation that is not fair, negative feelings arise such as anger or frustration (McColl-Kennedy and Sparks, 2003). In turn, such negative emotions directly affect other shopping outcomes (Smith and Bolton, 2002; Smith *et al.*, 1999).

H_4: The perceived severity of product information failure varies between different types of product information failures

The relationship between firms and customers is based on psychological contracts. These tacit contracts include terms and conditions of an exchange relationship to specify how the individual parties should behave (Morrison and Robinson, 1997; Rousseau, 1989). If PIFs occur, the psychological contract is broken by the retailer in the eyes of the customer. When a psychological

contract is violated, there is not only dissatisfaction, but also a feeling of betrayal (Rousseau, 1989; Montes *et al.*, 2015).

> **H_5:** Attribution of controllability and stability influences the effect of product information failure on perceived severity of service failure

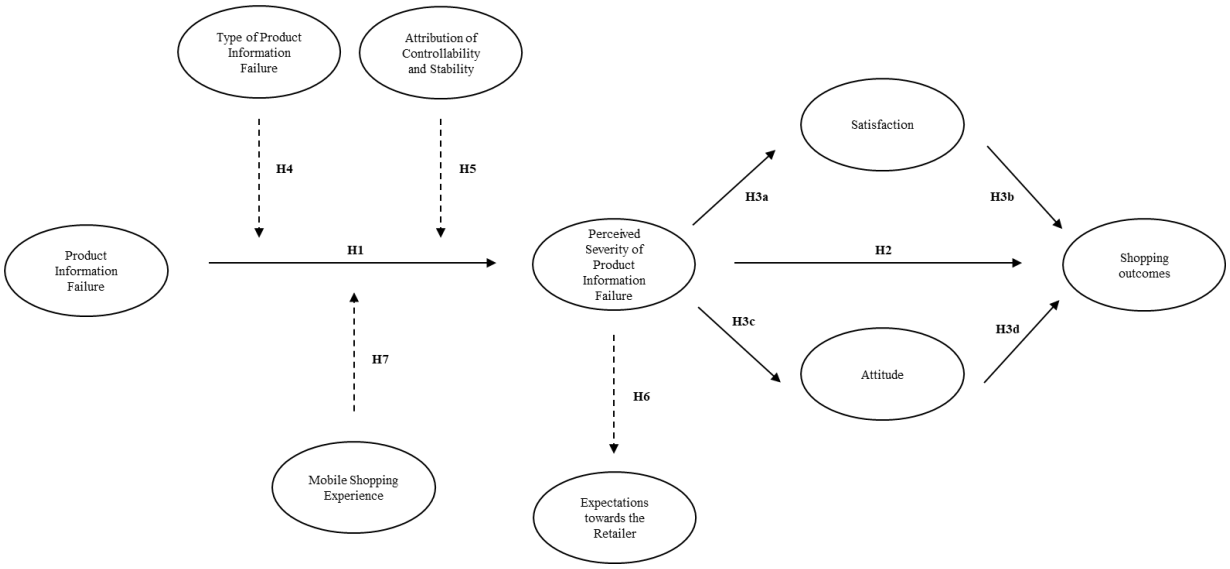
> **H_6:** A high attribution of controllability and stability leads to a high level of expectations towards the retailer

The mere-exposure effect describes the phenomenon that individuals create preferences for things they are familiar with compared to others they do not. Thus, a neutral situation or object might result in a more positive evaluation, merely because of previous experience and recognition (Zajonc, 1968; Bornstein, 1989). In the context of PIFs, this means that due to the positive influence of the mere exposure effect, those customers experienced in shopping on a mobile device have more positive feelings towards familiar shopping situations than less familiar ones.

> **H_7:** The perceived severity of product information failure is higher for inexperienced compared to experienced shoppers

All seven hypotheses result into a conceptual model (see Figure I).

Figure 1. Research Model



Methodology

Experimental Design

To test the conceptual model, we conducted a scenario-based experiment. The study features the most common product information failures of a leading online UK fashion retailer and adopted a one-factorial between subject's design. Seven different scenarios consisting of one control group and six treatment groups were utilized. Moreover, the scenario allocation was determined by a random sampling technique. The first scenario presents an online shopping situation without a service failure, to allow a general comparison to a service failure scenario. The experimental group includes six different treatment groups. The treatments represent different product information failures comprising missing, wrong or poor information regarding the product presentation (see Table I).

Table I. Research Design

Type of Product Information Failure		Product Information Failure	
		Yes	***No***
Type 1	*Missing Product Description*	Experimental Group 1	Control Group
Type 2	*Missing Product Image*	Experimental Group 2	
Type 3	*Missing Original Selling Price*	Experimental Group 3	
Type 4	*Missing Promotional Savings Message*	Experimental Group 4	
Type 5	*Incorrect Pricing of a Multi Buy Deal*	Experimental Group 5	
Type 6	*Low Product Rating*	Experimental Group 6	

Sample

The population of interest represents all individuals who shop mature women's apparel online and corresponds to the target group of a leading UK online fashion retailer. Hence, we drew a quota sample taking into account gender and age as controls. The data collection procedure was undertaken together with a panel provider. The sample consists of female UK consumers (100%), predominantly at the age of 40 to 59 years (88,8%), living mostly in households of 2-3 persons (61,7%) with the majority is working as employee (56,7%). The final sample consist out of 758 participants and is distributed approximately equally among the seven scenarios.

Findings

Based on an independent *t*-test, H_1 can be confirmed (Field, 2018). Situations with PIFs lead to a higher level of perceived severity of PIF (M_{No_PIF}=1.23, M_{PIF}=2.63, t (366.85) = -19.28, p < .001).

To test the second hypothesis H_2 we also applied an independent *t*-test (Field, 2018). The results show that the mean differences between the control and experimental group are significantly different from each other. Participants in the no PIF scenario are more likely to continue their shopping visit (Continue: M_{No_PIF}=4.56, M_{PIF}=3.83, t (756) = 5.28, p < .001), are more willing to spend money in the online shop (Spend: M_{No_PIF}=3.58, M_{PIF}=2.82, t (756) = 6.86, p < .001) and spread positive word-of-mouth (WoM: M_{No_PIF}=3.85, M_{PIF}=3.08, t (756) = 6.00, p < .001). Further, subjects who experienced a PIF were more likely to abandon their shopping cart (Abandonment:

M_{No_PIF}=4.00, M_{PIF}=2.96, t (169.36) = 7.72, p < .001) and not to shop there again (Patronage: M_{No_PIF}=3.01, M_{PIF}=2.66, t (756) = 3.22, p < .01). Finally, the shopping outcomes for participants with the 'PIF' scenarios are negative in comparison to the 'no PIF' scenario, so we retain H_2.

Hypothesis H_{3a} was tested based on an independent *t*-test (Field, 2018). The results show that there is a significant mean difference between the satisfaction of participants in the no PIF and PIF scenarios. The participants who have received a PIF show a lower level of satisfaction (Satisfaction: M_{No_PIF}=5.03, M_{PIF}=3.89, t (199.68) = 10.97, p < .001). We thus confirm H_{3a}.

To assess the mediating role of satisfaction a simple mediation test was performed (Hayes, 2022). Perceived severity of PIF affects the mediator satisfaction significantly, B = -.672, p <.001, which is in support of H_{3a}. In turn, satisfaction impacts the dependent variables significantly (Continue: B = .636, p <.001; Spend: B = .479, p <.001; WoM: B = .614, p <.001; Abandonment: B = .575, p <.001; Patronage: B = .417, p <.001). These results confirm H_{3b}.

To examine the mediating role of attitude the model 4 in PROCESS is used (Hayes, 2022). Perceived severity of PIF affects attitude significantly, B = -.526, p <.001, which confirms H_{3c}. The variable attitude impacts the shopping outcomes significantly (Continue: B = .843, p <.001; Spend: B = .565, p <.001; WoM: B = .718, p <.001; Abandonment: B = .686, p <.001; Patronage: B = .504, p <.001). Consequently, the H_{3d} can be supported.

For the comparison of the individual six types of PIFs, a one-factor variance analysis was applied (Field, 2018). The severity of PIF differs significantly for the types of PIF, F (6, 751) = 108.40, p < .001 and therefore confirms H_4.

Next, we tested for moderating effect of attribution of controllability and stability on the effect of PIF on perceived severity of PIF. The overall model is significant, F (3, 639) 7.00, p < .01, predicting 2.35% of the variance. The results show that attribution of controllability and stability moderated the effect between the occurrence of PIFs and perceived severity of PIFs significantly, ΔR^2 = 1.29%, F (1,639) = 8.49, p < .01. Thus, we can approve H_5.

To examine H_6, a moderated mediation was calculated using PROCESS model 7. The overall model was significant (ΔR^2 = 14,22%; F (2, 640) = 53.05; p < .001) as well as the mediating effect of severity of PIFs between the occurrence of PIFs and expectations towards the retailer (B = .371, p <.001). Moreover, we can see, that the moderated mediation is also significant (Index: .052, 95%-CI [.017, .090]). These findings confirm H_6.

Finally, a moderation analysis investigated the impact of shopping experience on the effect of PIF on the perceived severity of PIF. The overall model was significant, F (3, 754) 7.00, p < .001, predicting 2.89% of the variance. The results show that shopping experience moderated the effect between the occurrence of PIF and perceived severity of PIF significantly, ΔR^2 = .68%, F (1,754) = 5.30, p < .05. This confirms H_7.

Originality

To conclude, this paper investigates PIFs as a new category of online service failures, where product information is incomplete or inaccurately displayed. In addition, this research is the first to address online service failures in the context of mobile shopping. The findings reveal that there is a negative impact of PIFs on both shopper attitude and behaviour. Various PIFs are perceived differently though, with the types of failures involving missing product images and incorrect

pricing of a multi buy deal perceived as more severe than others. The results also suggest that retailer induced PIFs lead to a high level of customers' expectations to receive recovery from the retailer. Further, inexperienced mobile shoppers have a higher perceived severity of service failure in comparison to experienced ones. Based on these findings, retailers should pay far greater attention to identifying, reporting and correcting Product Information Failures (PIFs) across both desktop and mobile channels.

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Keywords:

Product information failure, Online service failure, Mobile shopping, Fashion retailing, Shopping behaviour.

BETTER SAFE THAN SORRY – IMPORTANCE OF HEALTH SAFETY MEASURES IN INTERNATIONAL RETAILING

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Keywords:

Health Safety Measures, Face Masks, Retailing, Safe Customer Experience, Perceived Threat, Shopping Well-Being, Attitude towards the Store.

Purpose

Nowadays, the creating of a positive customer experience is considered a key competitive advantage (Becker and Jaakkola, 2020; Klaus and Kuppelwieser, 2021). While previously instore experiences were based on atmospheric, service, product and social aspects (Verhoef *et al.*, 2009), the Covid-19 pandemic fuelled the significance of safety aspects (Berry *et al.*, 2020). As a consequence, 95% of retail customers expect Covid-19 safety measures for their instore shopping experience (Shopify, 2022). Thus, the prevention of consumer safety at the point-of-sale is of high importance for retailers (Anderson *et al.*, 2022), as customers have become more conscious towards safety and healthiness throughout the pandemic (Sehgal *et al.*, 2021).

Health safety measures are described as features reducing the spread of infectious diseases (Rahman *et al.*, 2022). They range from requiring customers to wear face masks, providing free hand sanitizer for the customers to using cashless or contactless payment methods (Untaru and Han, 2021). These measures contribute to the creation of a safe customer experience and thus, increase retailers sales and strengthen the relationship with the customer (Rahman *et al.*, 2022). Since there is scientific evidence that face masks contribute significantly to the containment of the Covid-19 virus (Lyu and Wehby, 2020), this research relies on this specific health safety measure. Moreover, face masks are not only important in times of crisis, but also in view of other infection seasons (e.g. flu) (Anderson *et al.*, 2022).

Literature on health safety measures has increased significantly, since the covid-19 pandemic started. Research on face masks is mostly related to the medical context (Lyu and Wehby, 2020; Scheid *et al.*, 2020) or the wearing behaviour in general (Binka *et al.*, 2023; Klucarova, 2022). Only few authors focus on face masks and their impact on consumers in retail environments (Hofmann *et al.*, 2021; Untaru and Han, 2021).

Hofmann *et al.* (2021) revealed that face masks on the one hand increase negative feelings but on the other hand they provide more security. Since the wearing of face masks is sometimes perceived as uncomfortable, it is important that retailers convey a feeling of security and appreciation for wearing the mask (Ackermann *et al.*, 2021).

Eger *et al.* (2021) emphasized that customers change their shopping behaviour due to fear. They further react with a decrease in satisfaction (Brandtner *et al.*, 2021) and purchase frequency (Vázquez-Martínez *et al.*, 2021) and in addition, their willingness to shop online increases (Eger *et al.*, 2021; Vázquez-Martínez *et al.*, 2021). Since, Hofmann *et al.* (2021) support, that face masks reduce the perceived risk of infection, we assume that face masks are an appropriate measure to enhance a safe customer experience in retail stores.

Untaru and Han (2021) introduced the effect of health safety measures on customers perceived shopping safety and behavioral intentions in Romania. However, they completely overlooked the individuality of single health safety measures, like face masks and they also lack to address an international context. As various countries had different policies on face masks and different cultural norms, we suppose that there are differences in consumers instore behavior. For example, Chang *et al.* (2021) found that the willingness to wear a mask is higher in South Korea than in the United States. Therefore, this research considers the effects of face masks as health safety measure in an international retailing context.

Based on that, this research makes the following contributions. First, we investigate the effect of face masks on customers' attitudes towards the retailer. Second, we emphasize the mediating role of customers perceived threat/safety and shopping wellbeing. Third, we compare the effects across

four continents (America: United States; Europe: United Kingdome; Australia: New Zealand; Asia: Hong Kong). Finally, our findings assist retailers in understanding and consequently managing a safe point-of-sale.

Conceptual Model

Based on existing literature we assume that face masks increase customers attitudes towards the store (Klucarova, 2022). Face mask are also known to reduce customers perceived threat and increase the perceived safety at the point-of-sale (Hofmann *et al.*, 2021). Consequently, we state that the effect of face masks is mediated by perceived threat/safety. As safe customer experiences positively impact customers wellbeing (Berry *et al.*, 2020; Rahman *et al.*, 2022), we suppose that the effect of face masks is also mediated by shopping wellbeing. Finally, we hypothesize that the effects of face masks are different in various countries, since there apply different policies and cultural norms (Chang *et al.*, 2021).

H_1: Face masks influence customers attitude towards the store positively

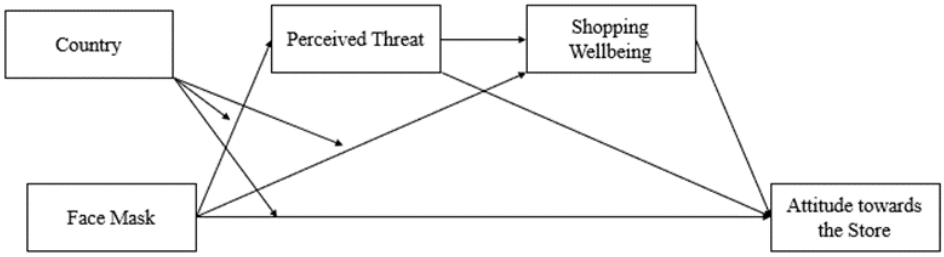
H_2: The positive effect of face masks on customers attitude towards the store is mediated by customers perceived threat

H_3: The positive effect of face masks on customers attitude towards the store is mediated by customers shopping wellbeing

H_4: The positive effect of face masks on customers attitude towards the store is mediated by customers perceived threat and customers shopping wellbeing

H_5: The effects of face masks are different in various countries

Figure 1. Moderated Serial Mediation Model



Methodology

Experimental Design

To test the conceptual model, we conducted a scenario-based experiment with a one-factorial between-subjects design. Two specific shopping situations, one with a health safety measure (face mask) and one without, are compared. The questionnaire was programmed in Qualtrics and the

data collection procedure was undertaken by a panel provider. The respondents were randomly and approximately equally distributed across the two settings. 50.1% saw the scenario with face mask and 49.9% serve as control group and received the scenario without face mask.

Sample

The underlying population of the sample represents all individuals who buy grocery products offline and who have been out for shopping in the last two weeks. In order to create a worldwide overview of the topic, we have decided to include representative examples from all continents. We have chosen four countries for this study including the United States (US), United Kingdom (UK), New Zealand (NZ) and Hong Kong (HK). The US is examined as the American showcase, as it has the largest trade market volume (US Census Bureau, 2022) and as it was particularly affected by the COVID-19 pandemic (World Health Organization, 2023). For Europe, we looked at the example of the United Kingdom because of its economic strength (Statista, 2022) and Europe's highest number of deaths from Covid-19 (World Health Organization, 2023). Further, New Zealand has a high per capita gross domestic product (Statistics New Zealand, 2023) and in terms of infection rate per capita it has the highest level in the Australian continent (World Health Organization, 2023). Finally, Hong Kong is used as Asian representative, since this metropolis records a high volume of trade (Census and Statistics Department Hong Kong, 2022) and applied a zero tolerance strategy in terms of Covid-19 (The Government of the Hong Kong Special Administrative Region, 2023).

The final sample comprises 2,176 respondents from the United States (23.1%), United Kingdom (30.8%), New Zealand (23.0%) and Hong Kong (23.0%). Being 48.3% male, 51.6% female and 0.1% diverse, at the age of 18 till 86 (M=44.4), having most of them a bachelor degree (32.9%) or a formal school qualification (17.9%), earning 15,001 till 58,000$ (52.4%) per year.

Findings

To assess the research model we calculate a serial mediation analysis using PROCESS model 6 with 5,000 resamples (Hayes, 2022). The overall model is significant, $F(6, 2{,}169) = 324.41$, $p < .001$, predicting 47.3% of the variance. The direct effect of face masks on customers' attitudes towards the store is significant ($b = .081$, $p < .05$). Thus, we can support H_1. Moreover, the findings suggest that on the one hand, perceived threat ($b = .054$, 95% CI [.036, .074]) and on the other hand shopping wellbeing ($b = .094$, 95% CI [.039, .151]) mediate the effect of face masks on customers attitude towards the store. Consequently, we can support H_2 and H_3. In addition, the results reveal a significant indirect effect of face masks on customers' attitude towards the store through perceived threat and shopping wellbeing ($b = .021$, 95% CI [.006, .036]). Hence, there is a partial mediation of each perceived threat and shopping wellbeing on the relationship between face masks and customers' attitude towards the store, which is in line with H_4. The results are summarized in Table 1.

Table 1. Serial Mediation

	Serial Mediation	**95% CI**

	Effect Size	Lower Bound	Upper Bound
Total Effect Face Mask → Attitude towards Store	.169	.109	.228
Direct Effect Face Mask → Attitude towards Store (H_1)	.081	.022	.171
Indirect Effects			
Face Masks → Perceived Threat → Attitude towards Store (H_2)	.054	.036	.074
Face Masks → Shopping Wellbeing → Attitude towards Store (H_3)	.094	.039	.151
Face Masks → Perceived Threat → Shopping Wellbeing → Attitude towards Store (H_4)	.021	.006	.036

To test H_5 we calculated moderated serial mediations using PROCESS model 85 with 5,000 resamples (Hayes, 2022). The results reveal that the moderating effect varies across the four countries, thus we can support H_5. There are no moderating effects of US on the direct (H_1: Index = -.043, 95% CI [-.223, .128]), nor on the indirect effects (H_2: Index = .006, 95% CI [-.025, .036]; H_3: Index = -.001, 95% CI [-.164, .168]; H_4: Index = .002, 95% CI [-.010, .017]) of face masks on customers attitude towards the store. UK positively moderates the indirect effects across perceived threat (H_2: Index = .045, 95% CI [.018, .075]) and shopping wellbeing (H_3: Index = -.001, 95% CI [-.164, .168]), but not the direct effect of face masks on customers attitude towards the store (H_1: Index = .140, 95% CI [-.017, .298]) and the serial effect across both perceived threat and shopping wellbeing (H_4: Index = .009, 95% CI [-.003, .025]). In contrast, NZ negatively moderates the indirect effects across perceived threat (H_2: Index = -.068, 95% CI [-.105, -.040]), shopping wellbeing (H_3: Index = -.174, 95% CI [-.316, -.027]) and across both (H_4: Index = -.034, 95% CI [-.063, -.010]). However, NZ does not moderate the direct effect of face masks on customers attitude towards the store (H_1: Index = -.069, 95% CI [-.242, .104]). Like the US, HK neither serves as a moderating variable (H_1: Index = -.067, 95% CI [-.239, .105]; H_2: Index = .021, 95% CI [-.004, .050]; H_3: Index = -.059, 95% CI [-.193, .079]; H_4: Index = .011, 95% CI [-.002, .028]).

Originality

This paper contributes to theory and practice in several ways. Starting with the theoretical implications, this research assesses the effect of face masks on customers attitude towards the grocery store. Moreover, we investigate the role of customers perceived threat/safety and shopping wellbeing. We further explore international differences in view of the effect of face masks. For practitioners this paper delivers insights on how to create an environment where the customer feels safe and secure.

Research limitations

As every research work the present one is constraint by several limitations. First, this paper deals with health safety measures in the specific context of grocery shopping. The results only represent one retail sector and should therefore be extended to others. Second, this approach does not account contextual factors. For example, factors like the purpose of the trip or the urgency of the purchase

can influence the shopping outcomes. Therefore, future research should consider contextual factors as well as potential moderating variables, like previous shopping experiences. Finally, we examine a latent construct by using a scenario-based experiment as a research strategy. To assess the real and unbiased behaviour a field experiment should be conducted.

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Keywords:

Health Safety Measures, Face Masks, Retailing, Safe Customer Experience, Perceived Threat, Shopping Well-Being, Attitude towards the Store.

HOW SHOULD RETAILERS MANAGE MOBILE COMMERCE ACTIVITIES? THE IMPACTS OF ESSENTIAL ACTIVITIES ON FIRMS PERFORMANCE

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Keywords

mobile commerce, firm performance, customer measure, retailing, dynamic capabilities theory

Introduction

As consumers increasingly use mobile devices for a whole array of activities in the retail environment (Lemon and Verhoef 2016; Shankar et al. 2016), retailers are engaging in extensive mobile commerce activities (MCAs) to satisfy customer needs (Cao et al. 2018; Shankar et al. 2010). MCAs are defined as business activities and operations that use mobile devices, or technology through a wireless telecommunications network to conduct communication, transfer information, and facilitate transactions (Hu et al 2008; Huang et al 2016; Liang and Wei, 2004; Shankar and Balasubramanian, 2009; Skiba et al 2000). Retailers face challenges in allocating limited resources across a wide range of MCAs. Current literature remains unclear how different types of MCAs could influence retailers' performance in different ways. Therefore, it is crucial to understand the mechanism through MCAs affect business performance. What types of MCAs could or could not replace each other? Gaining insights to the questions will help retailers optimize the investment decisions in developing MCAs and manage various types of MCAs more effectively.

Studies identifying multiple dimensions of MCAs (e.g., Andrews et al. 2016; Balasubramanian et al. 2002; Kourouthanassis and Giaglis 2012; Liang and Wei 2004; Shankar et al. 2010) have approached from different perspectives, such as technology-based schemes, a firm management or a customer-centric perspective. Yet, these studies are conceptual research have not been tested empirically. The limited number of studies (Boyd, Kannan, & Slotegraaf, 2019; Cao, Liu, & Cao, 2018) investigate the multiple dimensions of MCAs and their effects on firm performance, but they have narrowly considered mobile applications. Given the rapid development of mobile technologies and devices in use in mobile commerce, with most retailers generating sales via mobile websites rather than applications (eMarketer, 2021), a larger study scope is necessary.

Furthermore, Cao et al. (2018) explore the value creation of mobile commerce from the supply as well as the demand side. However, Boyd et al. (2019) do it only from a customer journey perspective. Since mobile technology, as a key contemporary form of information technologies, that fosters an intimate relationship with customers (Phang, Luo, & Fang, 2020; Shankar et al., 2010) strengthens the intermediate role of customer measures in the effect of mobile commerce on firm performance (Liang, Huang, Yeh, & Lin, 2007; Martín, López-Catalán, & Ramón-Jerónimo, 2012; Tong, Luo, & Xu, 2020), the focus Boyd et al. (2019) chose is reasonable. However, neither Cao et al. (2018) nor Boyd et al. (2019) empirically test the mediating factors of the effect of mobile commerce from a customer perspective. Their studies examine contingent factors but focus only on firm-level factors (firm size, product category, customer segment, and mobile application launch time). The literature (e.g. Shankar et al., 2010) identified competitive pressure as a crucial factor in the growth of mobile commerce. It is therefore necessary to investigate the role of industry competition in the effect of MCAs on firm performance.

Sales from mobile commerce is expected to reach $523.18 billion and account for 40.4% of all ecommerce sales in 2024 (Inside Intelligence, 2023). Such exponential growth requires more comprehensive research to keep marketers abreast of the latest developments in the area.

Purpose

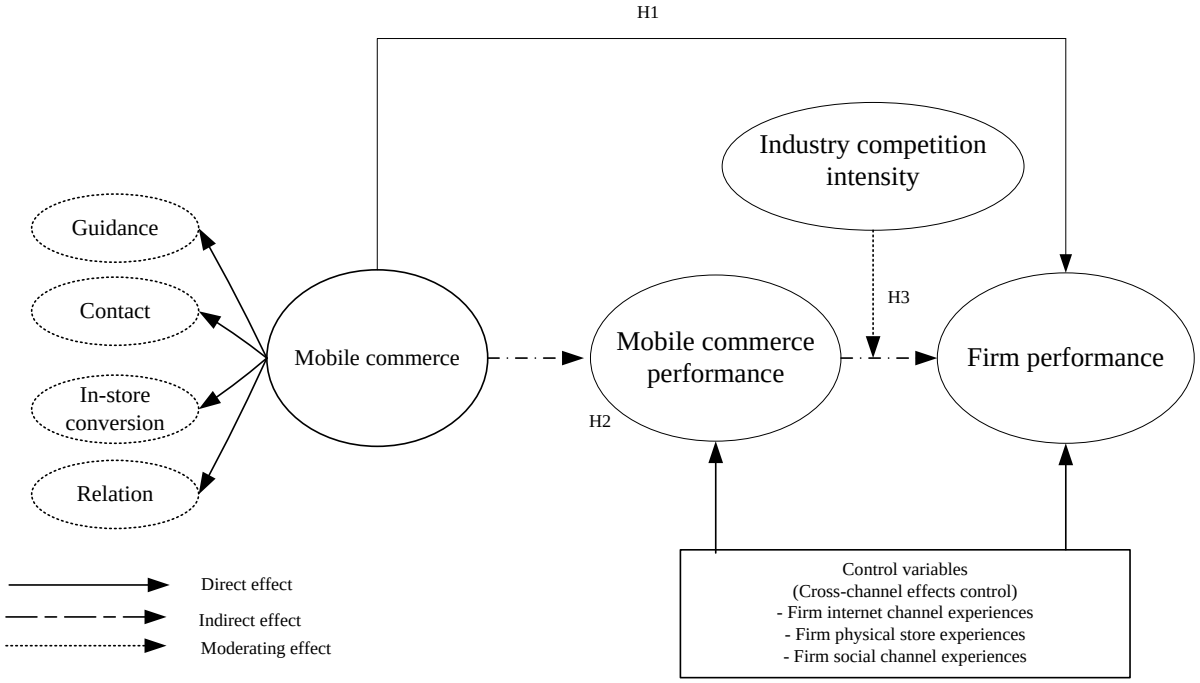
In response, the objectives of our study are to: 1) explore the main dimensions of a broad range of MCAs, 2) assess the effects of MCAs on firm performance, 3) investigate how mobile commerce performance mediates the impacts of MCAs and 4) examine how industry competitive intensity moderates the link between mobile commerce performance and overall firm performance.

Conceptual framework

Hypothesis 1: Mobile commerce with multiple dimensions influences firm performance positively.

Hypothesis 2: Mobile commerce performance from a customer perspective mediates the effect of retailers' MCAs on firm performance.

Hypothesis 3: Industry competitive intensity positively moderates the effect of mobile commerce performance on firm performance.



Methodology

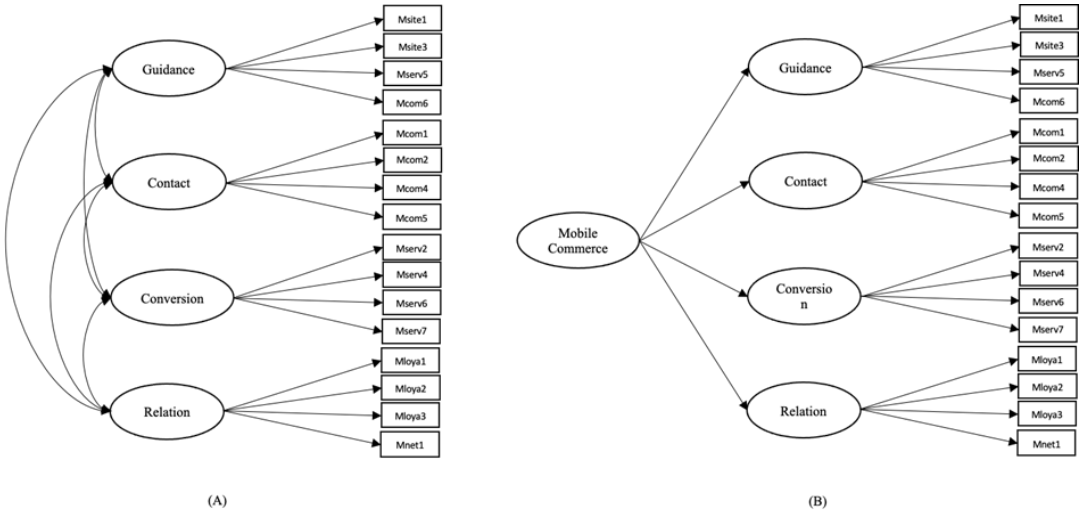
we conduct both qualitative and quantitative studies. In the qualitative study, we attempt to identify major retailers' MCAs. Drawing on an extensive literature review and multiple secondary databases (Factiva and retail business portals), we identify 21 main retailers' MCAs through a grounded-theory study. In the quantitative study, we use the data collected in a survey of 172 retail executives to investigate the structure of retail MCAs and test its impact on firm performance.

Findings

Retailers' MCAs, sources, and examples of firm activities

	Firm activities (Label)	Sources	Examples of the MCAs implemented by firms
1.	Offering mobile coupons to customers (Mcom1)	SVHN, TR	One of the world's top c-store chains uses a standard OCR card reader) to scan a smartphone POS coupon for a bag o customer gets a discount immediately, just as they would v coupon.
2.	Sending mobile text messages to customers (Mcom2)	SVHN, TR	The addition of text messaging to Rite Aid's pharmacy ale is powered by Sybase 365, a global leader in mobile messa mobile commerce services.
3.	Providing rich content marketing messages (e.g. images, videos, and QR codes) on mobile devices (Mcom3)	SVHN, AGHPT, TR	The Home Depot partnered with Scanbuy to launch a natic communication strategy that uses mobile barcodes enablec Scanbuy's ScanLife system. The initiative incorporates 2D (QR codes) that give customers immediate access to infor as product rating and reviews, how-to guides, and videos a specific products.
4.	Sending time-based push notifications to customers (Mcom4)	AGHPT, TR	Macy's sent personalized offers and other tailored content time based on the shopper's location.
5.	Sending location-based push notifications to customers (Mcom5)	AGHPT, TR	Using (or at least experimenting with) geo-targeting, push offering information and/or special promotions to consum their physical location (e.g. new programs are in place at T Wal-Mart) for timely flash sales.
6.	Mobile emailing (Mcom6)	SVHN, TR	Even email alerts, like those from Petco, are formatted for viewing based on their size, structure, and content.
7.	Launching a mobile-friendly website (Msite1)	SVHN, TR	From PacSun to Staples to Crutchfield.com, an increasing retailers are also launching mobile-optimized sites to sa savvy consumers.
8.	Redesigning the mobile site to use one code base for desktop as well as mobile (Msite2)	SVHN, TR	Target previously operated two separate websites: one for one for mobile. The shift to one site means Target's deskto experience will, essentially, be the same one that guests ha their mobile website. Managing Target.com with one code enable the company's digital side to make updates faster a efficiently than ever before.
9.	Optimizing mobile site for smartphone viewing (Miste3)	SVHN, TR	Just in time for the holidays, Toys "R" Us is embracing m hilt thanks to a new tablet-optimized site. The goal is to gi customers easier access to sister company Babies "R" Us, redesigned mobile-optimized sites and mobile shopping ap
10.	Improving mobile shopping walls in stores (Mserv1)	TR	Sears and Kmart are debuting "mobile shopping walls" in areas to reach customers who are traveling or are on-the-g holiday season.
11.	Facilitating mobile payments (Mserv2)	SVHN, AGHPT, TR	Burger King Corp. has launched a mobile payment pilot p partnership with Firethorn Mobile, a subsidiary of Qualcor
12.	Providing mobile navigation services to customers (Mserv3)	TR	Shoppers at all Lowe's locations can use the product locato to search for products and instantly see the items' locations detailed store map using Lowe's iOS and Android mobile a Lowe's mobile-optimized website.
13.	Enabling interactive communication via customers' mobile phones between customers and stores (Mserv4)	SVHN, TR	The store has been fully equipped with over 55,000 Pricer enabled ESLs. Not only do they bring all the benefits of E (including centralized price automation) but customers car "like" a product with their phone, and the label will displa number of likes.

Theoretical models to present the structure of MCAs



Structural model results: original estimates

	Model 1 Partial mediation			Model 2 Full mediation		
	R^2	β	p-value	R^2	β	p-value
Firm performance	0.68			0.69		
Mobile commerce		0.14	0.63		----	----
Mobile commerce perf.		0.55*	0.07		0.69***	<0.001
Industry comp. intensity		-0.37*	0.05		-0.32*	0.06
Interaction (Mobile commerce perf. x Industry comp. intensity)		0.15	0.11		0.14*	0.05
Firm Internet channel exp.		0.33*	0.08		0.34*	0.07
Firm physical store exp.		-0.01	0.52		-0.02	0.45
Firm social channel exp.		0.07	0.31		0.05	0.30
Mobile commerce perf.	0.72			0.73		
MCAs		0.40***	<0.001		0.42***	<0.001
Firm Internet channel exp.		0.30**	0.03		0.28**	0.03
Firm physical store exp.		0.00	0.91		0.00	0.93
Firm social channel exp.		0.01	0.89		0.01	0.84
Indirect effect		0.22*	0.10		0.29**	0.01
Total effect		0.35*	0.08			

Our empirical findings uncover the structure of MCA as a two-order construct with the sub-dimensions of guidance, connection, conversion, and relation and suggests that the positive joint effect of an MCA's four dimensions on firm performance (H1) is fully mediated by a

firm's mobile commerce performance (H2). Furthermore, the effect of mobile commerce performance on firm performance was positively moderated by industry competitive intensity (H3).

Contributions

First, this study advances understanding of mobile commerce by providing an empirically based classification scheme. Prior work has generated a theoretical discussion of the classification of MCAs from different perspectives without further empirical support.

Second, this research extends the literature that captures mobile performance from customers perspectives. The literature has suggested that the intimate relationship between customers and their mobile devices consists of an essential part of firms' mobile performance. Our findings provide empirical evidence for this assumption and confirm the critical role of customer measure in mobile commerce.

Third, we extend the literature on understanding the value creation of mobile commerce beyond the transactional paradigm (Bang et al., 2013; Cao et al., 2018; Fong et al., 2015; K. Xu et al., 2017). Our empirical findings relating to the moderating and mediating effects strengthen the argument for this. More direct validations are needed in future research.

Practical implications

Our results provide new insights for retailers to manage their mobile commerce effectively in a business environment that is evolving fast, driven by constant shifts in customer mindsets and emerging information technologies.

First, our findings suggest that mobile commerce comprises four dimensions ─ guidance, contact, in-store conversion, and relation. Each dimension groups multiple MCAs that share the same value creation logic. For instance, the MCAs linked to the guidance dimension refer to activities that can create value in terms of letting customers navigate available products or services on the mobile phone and making them convenient for mobile shopping.

Although the four dimensions are interdependent and need to work together, the MCAs linked to each dimension are interchangeable. As such, we offer retail managers clear strategic directions for evaluating their new and old MCA investment.

Second, our model demonstrates that MCAs influence firm performance indirectly through mobile commerce performance as measured from a customer angle. We therefore raise retail managers' awareness that customers' positive reaction to any new MCA is a crucial factor that determines firm performance. While developing any new MCA, retailers should spend enough time to do testing with customers in order to reduce any negative responses to the MCA before officially launching it and rolling it out. Retailers might otherwise suffer the failure of an MCA that was not tested thoroughly enough, but also its negative spillover effect on other channels and even on the whole company.

Third, our results show that customer-appreciated MCAs enable retailers to gain an advantage in a more competitive market. Thanks to customers being more attached to their mobile phones than other devices, retailers can fully deploy mobile-based tools and activities to improve customer relationship management. For instance, the retailer Target sells a mobile holiday game, and even though this MCA is not directly related to their customers' shopping tasks, it offers entertainment, which increases customer engagement and strengthens relational ties between the firm and its customers.

Research limitations and outlook

First, although we carefully identified retailers' MCAs by means of an extensive literature review and a qualitative study involving multiple secondary databases (Factiva and retail business portals) and investigated the main dimensions of mobile commerce based on a survey of 172 retail executives, this study represents only the first attempt to refine the measure of mobile commerce. Considering how quickly mobile commerce evolves, we recommend that further research replicate this study with a new dataset to strengthen the validation of the construct and the effect of mobile commerce.

Second, the generalizability of the results is limited because we used data from a sample of firms in the USA. A cross-country study would be helpful for reinforcing our findings' generalizability, especially given the uneven development of mobile commerce worldwide.

Third, the results of this study, along with those of previous studies, suggest that the different dimensions of MCAs are interdependent and need to work together to provide positive impacts. Future research should continue to explore how these four dimensions work together. For example, it will be interesting to test the complementary relationship between the dimensions of guidance and contact as well as the potential tension between the contact and relation dimensions, due to privacy concerns.

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Keywords

mobile commerce, firm performance, customer measure, retailing, dynamic capabilities theory

Consumer Stockpiling Motivation in Times of Ongoing, Multiple, Overlapping, and Compounding Crisis

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Introduction

Consumers live in turbulent times. As the world grapples with the economic fallout from Covid-19, a war has broken out in Ukraine, disrupting food and energy supplies. Consequences are high inflation and a cost of living crisis in many countries. At the same time, the climate crisis and environmental concerns pose additional challenges for the global economy and politics (United Nations, 2023). As these crises are all interrelated, the World Bank (2022, 1) calls them "ongoing, multiple, overlapping, and compounding".

Crises not only shape the social climate and confidence in the economy but also everyday consumer behaviour (Koos et al., 2017), not least, how we shop for daily supplies. In the last two years consumer uncertainty and anxiety in times of crisis has been reflected in panic buying, e.g. of toilet paper at the beginning of the Covid-19 pandemic (Buchholz, 2020), or of sunflower oil after the Russian attack on Ukraine (Rees, 2022).

Until a few years ago, the topic of stockpiling was primarily studied in terms of the impact of price promotions (Ailawadi et al., 2007; Gangwar et al., 2014; Gupta, 1988; Bell et al., 1999; Mela et al., 1998; Helsen and Schmittlein, 1992). Due to the phenomenon of excessive buying observed worldwide during the Covid-19 pandemic, the topic has attracted new research interest. Since 2020 numerous papers have addressed stockpiling, primarily relying on modelling data (Brizi and Biraglia, 2021; Hall et al., 2021; Fischer et al., 2021). Qualitative studies that investigate the psychology and underlying motivation of stockpiling behaviour are rare (Naem, 2021; Lehberger et al., 2021; Ahmadi et al., 2022). In addition, most research focuses primarily on the occurrence of one crisis, i.e. Covid-19 and its effect on excessive stockpiling.

Purpose

In this research, that is work in progress and exploratory in nature, the topic of stockpiling is examined against the backdrop of a consumer environment that is disrupted by various crises at the same time.

It aims at answering the following research questions:

- How does the current climate of ongoing, multiple, overlapping, and compounding crises affect consumers' stockpiling behaviour?
- What motivation lies behind whether, how much and what consumers stockpile in this environment?

Research approach

Given the state of research, a qualitative approach was adopted. In a first wave in November 2022, 30 consumers were invited to report on the motives of their current stockpiling behaviour, as well as its changes in the past two to three years. Based on the findings the guiding questions were adapted and another 32 consumers were interviewed in a second wave in December 2022.

A convenience sample was used both times. The consumer reports were transcribed and analysed with conventional qualitative content analysis, according to Hsieh and Shannon (2005) using NVivo.

Findings

When it comes to what type, quantity and quality of products are stockpiled three major motivations can be identified: Being prepared, saving money and avoiding food waste:

- Consumers want to be prepared for both a crisis and daily challenges: *"I like the feeling of security and would hate to find myself in a situation where something important is missing."* (2-12), or *"Personally, I feel much more comfortable with the idea of being prepared for a possible emergency, e.g. a power failure or something less dramatic like spontaneous guests on a Sunday."* (2-19).
- Saving money is a second major motivation: "*We stockpile to save money, besides, you have peace of mind.*" (1-03).
- Many consumers mentioned potential food waste as a problem, when it comes to stockpiling: *"I don't like having too much food in stock. It stresses me out knowing I have to use it up before it goes bad."* (2-04). This also affects what types of products are stockpiled: *"You should be particularly careful with fruit and vegetables, as they can go bad quickly. Stockpiling these products would not be so good for the environment"* (2-23).

The interviews clearly revealed that the perception of several crises affect stockpiling behaviour. The following were mentioned: Covid-19, the war in Ukraine, the cost of living crisis, the energy crisis and potential blackouts, as well as environmental concerns, especially in the context of food waste.

At the time of fieldwork, inflation seemed to have the biggest impact on both quantity and quality of stocks: *"Price increases actually have a strong influence on what and especially how much I buy. If I find a food product in one supermarket that is clearly cheaper than elsewhere, I buy several items."* (1-20), or *"I try to avoid expensive groceries in stock. I used to always have frozen raspberries, now I don't anymore… only now and then. To save money, I tend to buy large packs which are cheaper, like with rice."* (1-09).

Covid-19 was also mentioned as a defining experience: *"As I said before, the pandemic had a very strong influence on my shopping behaviour and stockpiling. Because I never ever want to be in a situation again in which I can't buy anything."* (1-16), or *"However, you just noticed from the empty shelves and hoarding that you can never be 100% sure that all products are available at all times.*" (1-01).

Consumers are well aware of the current crises being interdependent. Many of them mention that experience from a previous crisis influences their reaction to current challenges, like one respondent who explains that his response to the war in Ukraine was *"like during the pandemic. You never know what is coming. So, I'm more careful to have long-life foods in stock."* (1-07). Another respondent mentions the same connection but draws a different conclusion, when she mentions that the war in Ukraine has *"little influence because of our experience during Corona, when we were well supplied with groceries"* (1-03).

A strong tie was found between the effect of inflation and the perception of food waste: *"One reaches for the cheapest products, as inflation puts a heavy strain on the wallet. ... I shop more consciously to avoid wasting food."* (1-14), or *"The price increases didn't directly affect how many supplies I have, but which ones. I used to buy branded products. Now I'm more careful with my money and also about wasting as little food as possible."* (1-07). It seems that the

higher food prices at least have positive effects for the environment, as they translate to less food waste.

Observing others also influences the perception of crises: "*Seeing my friend who always has food supplies in stock, I realised that it is actually not a bad idea."* (1-01), or *"Somehow I understood the panic, as we are not used to empty shelves. These were an indication that the crisis was real."* (2-25). Many consumers mention panic buying and hoarding as a problematic aspect of stockpiling and egoistic behaviour in difficult times. At the same time, some of them admit that this behaviour is contagious. Some respondents mention fear of missing out: "*You start to think for yourself. Shouldn't I also stock up? Because you're afraid you'll miss out and you'll run out of groceries?"* (2-30).

Media reports also seem to have an impact: *"Over the past year, the growing 'scare-mongering' about a blackout is also affecting my decisions regarding supplies."* (1-01), and *"The more it is publicly communicated, the more people think about this topic."* (2-02).

Many respondents stress that taste and quality (e.g., freshness, healthiness, convenience) are very important for their decision what type of product they stockpile. Eating and cooking habits are also referred to a lot: *"I always have butter at home because you need it for many recipes and I like to eat butter on toast.*" (1-21). Price and long-life are other essential product attributes when it comes to supplies, especially in times of crisis.

Retail infrastructure and shopping habits play an important role whether consumers stockpile or not: *"Otherwise, I would have to go shopping. I live in a rural area and my next store is 15 kilometres by car."* (2-25) versus "*I have a vegetable garden and my neighbour is a farmer."* (2-18). Many respondents name avoiding "having to go to the store" as a major reason why they want to have sufficient supplies at home: *"I try to go to the store as seldom as possible."* (1-25). Upbringing and socialisation also come up in several reports: *"Having plenty of groceries and necessary products has always been common and important to us due to my mom's family background of farming."* (1-03), or *"Behaviour is passed on from one generation to the next one. I stockpile the same products as my mom and she like hers"* (1-20).

Stockpiling is also subject to changing living conditions that may be caused by a crisis like Covid: *"Thanks to home office and distance learning, we were all at home for dinner and cooked fresh meals almost every day. That's why we had more fresh produce and less convenience products at home."* (1-02), or "*... you cooked more at home and therefore tried out more recipes. As a result, grocery shopping was much more extensive and more products were available at home. My cooking skills also improved."* (1-06). But changing living conditions may also be caused by reasons other than crises: *"As I moved out of the apartment I shared with my partner, my stocks have gone down. Now I only have to take care of my own needs"* (1-27), or *"I moved out two years ago. At my mother's house, there were always many things in stock. Now that I'm a student, I tend to live in the moment and can't afford to stock lots of products – so only the essentials."* (1-05).

Personality also seems to be an important factor for stockpiling, in the context of crises especially autonomy and trust in authorities. Several people in this research mentioned that they rely on the government in times of crisis: "*Maybe I might buy a little more than usual, especially long-life products, but I wouldn't stockpile, because I trust the government to supply us with a sufficient amount of food."* (2-21), or *"Our government wouldn't let us starve to death."* (2-24). Others seem to be less trusting: *"Everyone can buy as much as he or she wants. But in my opinion it is wise to have reserves."* (2-08).

Original value and implications

Based on the findings a model identifying several determinants of consumer stockpiling activity and motivation in times of multiple crises was drawn up (see figure 1).

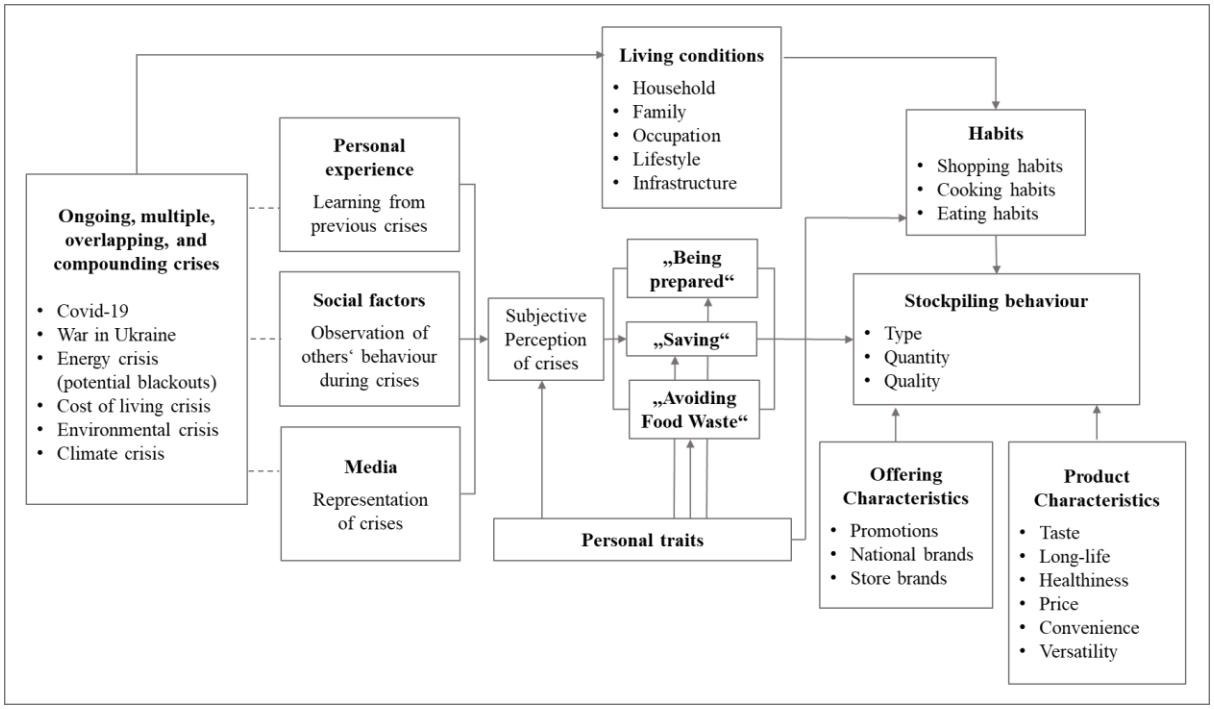

Figure 1: Factors determining stockpiling motivation in times of crises

Both marketers and retailers should be aware that consumers' stockpiling behaviour in times of multiple crises is driven by many different factors that are partly in conflict with one another. In line with early research on hoarding (McKinnon et al., 1985; Stiff et al., 1975), the perception of crises, anxiety and uncertainty affect the type, quantity and quality of products that consumers stockpile. While some crisis encourage stockpiling, e.g. being afraid of a blackout or a lockdown, others, like food waste or the cost of living crisis, may also reduce stockpiling motivation. Social influences, like observing other consumers' behaviour and the media also shape consumer motivation to stockpile. These factors complement shopping, cooking and eating habits as well as product and offering characteristics.

Companies that understand the complex and at times contradictory nature of stockpiling behaviour can better anticipate shifts in consumer demand and adjust their inventory management accordingly (Aastrup and Kotzab, 2010). They can also adapt their communication strategies with the aim to avoid negative consequences of excessive stockpiling like hoarding and thereby reduce the cost of demand swings and out of stock situations. From the perspective of society, reducing food waste by avoiding irrational stockpiling is a desirable goal.

Research limitations and outlook

The reports of 62 consumers in total revealed that stockpiling in times of ongoing, multiple, overlapping, and compounding crises is very complex. While a number of different factors could be identified and theoretical saturation was achieved to some extent more research is needed to further investigate this topic. The exploratory nature of the research hast to be taken into account when it comes to the interpretation of the findings. While representativeness was no major objective of the research, the fact that a convenience sample was used has to be

mentioned nevertheless. The focus in this research was put on stockpiling in an environment of crises, which may have caused a bias as well.

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Keywords

stockpiling, supplies, crises, panic-buying, hoarding

FROM CASH TO CARDS: UNLOCKING EGYPT'S DIGITAL PAYMENT TRANSFORMATION

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Keywords

Cash on delivery, Online shopping, Card-based payments, PPM Framework, Switching intention, Consumer behaviour, Switching behaviour

Purpose

With a population of over 110 million as of January 2023, the Egyptian market represents one of the largest in the Middle East and North Africa (MENA) region (Kemp, 2023). Egypt's increasing internet reliance that currently stands at 72% (80 million users) and its youthful population of nearly 65 % under the age of 35, as well as the rising adoption of smartphones, make the Egyptian e-commerce market very attractive to both domestic and international players (Kemp, 2023). For example, in 2021 Amazon, invested 1bn Egyptian Pounds in its first outpost in Africa which is also the largest MENA country it operates in (Enterprise, 2021).

In 2021, more than 60% of online shopping transactions in Egypt were done using Cash-on-delivery (Galal, 2021). The issue is that using Cash-on-delivery transfers most of the risk associated with sales from the buyer to the seller and troubles the cash flow of businesses. Previous research has found that although there are various methods of payments, customers in emerging economies prefer Cash-on-delivery over Card-Based payments (Hamed & El-Deeb, 2020; Hossain, 2019) due to various reasons such as trust, privacy, social influence or perceived security (Pancarelli et al., 2018; Patil et al., 2017). Although there is research which focuses on the methods of payment, the Egyptian customers and their preference to use Cash-on-delivery when buying online is an under-researched area. Therefore, this paper addresses the gap in the literature and looks at exploring why this is a preferred method during a technology-driven society.

The Push-Pull-Mooring (PPM) framework is the theory used in this study. PPM was developed by Lee (1966) to understand human migration decisions. It was firstly utilised in the consumer behaviour context by Bansal et al. (2005) to understand consumer switching

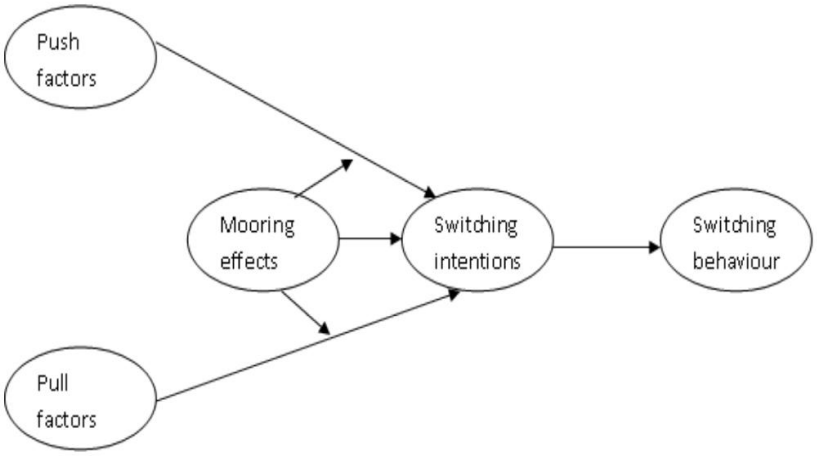
behaviour and deemed very useful in predicting consumer switching intention and behaviour. This study aims to identify the main factors that businesses in Egypt can use to push their consumers away from Cash-on-delivery, pull their consumers to Card-based payments and therefore, help businesses gain a deeper understanding of what would influence online Egyptian consumers to switch their behaviour and start using Card-based payments instead. The challenges faced by online Egyptian consumers in using Cash-on-delivery, the influencers for adopting Card-based payments methods amongst online Egyptian consumers, and the barriers that impact online Egyptian consumers switching intention from cash to card payments were explored.

Conceptual framework

The PPM framework (Figure 1) assumes that push are negative factors that force people to exit from an origin, while pull are positive factors at the destination that attracts people toward them (Jung et al., 2017). These push and pull factors work interdependently with the mooring effects. The mooring effects, as mentioned by Bansal et al. (2005), are variables that act to either encourage or deter the switching intention and are related to individual circumstances, mental factors, values, standards of living, and social impact (Kim et al., 2019).

Previous researchers state that the factors in the PPM framework vary depending on the context of the research (Jung et al., 2017; Li & Ku, 2018) since consumers have different reasons for switching behaviour depending on the industry (Ye & Potter, 2011). Therefore, the factors of the PPM should be identified based on each research context (Li & Ku, 2018). PPM is the appropriate model used to explore the under-researched context of Egyptian online customers and previous studies have confirmed its effectiveness to explain and identify factors that may impact consumers switching intention in various industries, such as mobile services (Calvo- Porral & Levy-Mangin, 2015), online games (Hou et al., 2011), and mobile messaging apps (Liao et al., 2019). In addition, although PPM has been used to explore switching intention in many other contexts it is still relatively underused in the context of marketing and in particular when exploring the switching intention from Cash-on-delivery to Card-based payments in particular in the Egyptian market.

Figure 1: Push-Pull-Mooring framework (PPM)



Source: Nimako (2012, p. 78, adapted from Lee, 1966)

Methodological approach

A qualitative approach was deemed appropriate for this research to explore online Egyptian customers' attitudes towards different types of payments. Most studies in this area were quantitative in nature which aimed to generalise the findings (Hamed & El-Deeb, 2020; Thanh & Thanh, 2015) and explain what was happening rather than the why of online consumer behaviour. As such, this exploratory research also contributes to methodology as it helps the authors get an in-depth understanding of the push, pull and mooring factors in relation to switching to Card-based payments.

Twelve semi-structured interviews were conducted with Egyptian nationals living in Egypt who shop online. This data collection tool was chosen as participant's points of views are better expressed in an openly designed interview rather than a standardised one, since it allows the participants to talk more in depth about their personal experiences (Al Balushi, 2018; Flick, 2009). Their preferred methods of payments and the reasons behind this as well as their experiences using Card-based payments and Cash-on-delivery were topics covered. One pilot study was conducted as well in order to assess the suitability of the questions. The participants were recruited through convenience sampling since the researchers were based in the UK. The only criteria needed for the participants was for them to buy online and live in Egypt. The profiles of the participants can be seen in Figure 2. Disclosing the profile or demographics of the interview participants will help the readers contextualise the findings and understand the applicability of the results to a specific population. It also helps inform future researchers by highlighting gaps and areas for further exploration.

Figure 2: Participants' profiles

Participant	Age	Gender	Highest Education Degree	Type of Educational institution	Area	Owns a debit/credit card
P1	22	Female	Bachelors	Private	Urban	Yes
P2	34	Male	Masters	Public	Urban	Yes
P3	24	Male	Masters	Public (Abroad, UK)	Urban	Yes
P4	38	Female	Bachelors	Private	Urban	Yes
P5	23	Male	Masters	Public (Abroad, UK)	Urban	Yes
P6	22	Female	Bachelors	Private	Urban	Yes
P7	23	Female	Bachelors	Public	Urban	Yes
P8	25	Male	Bachelors	Public (Abroad, UK)	Urban	Yes
P9	44	Female	Bachelors	Public	Urban	Yes
P10	24	Male	Masters	Public (Abroad, UK)	Urban	Yes
P11	59	Female	Bachelors	Public	Urban	Yes
P12	23	Male	Bachelors	Private	Urban	Yes

Source: Authors (2023)

The interviews were recorded in the Arabic language (the interviewees' native language), then translated and transcribed using Otter Speech-to-text application and inputted in Nvivo. Inductive thematic analysis was used to identify the emerging themes arising from the data collected itself (Patton, 1990). The data was analysed based on the phases of thematic analysis by Braun & Clarke (2006) by familiarising with the data, generating codes, looking and assessing the themes and highlighting the final themes.

Findings

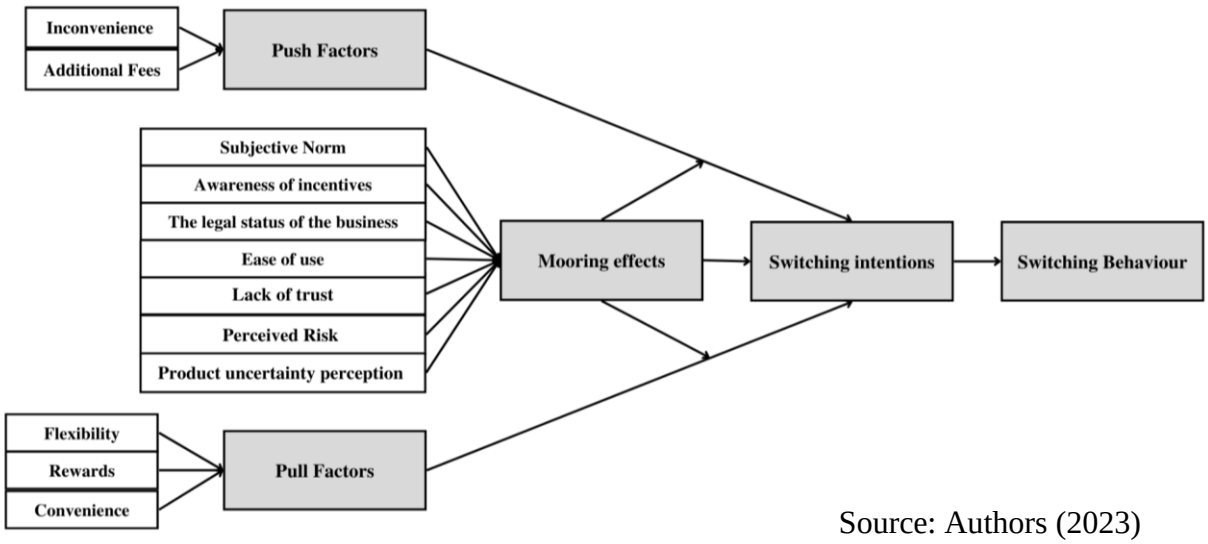
The data revealed twelve categories of factors which have been classified under the three themes (factors) of the PPM framework - the Push factors, the Pull factors and the Mooring effects. As seen in Figure 3, the research found that inconvenience and additional fees are the

main factors that are pushing away online Egyptian consumers from using Cash-on-delivery as a payment method. Issues such as unexpected delivery times as well as just not having enough change or lack of cash were mentioned. For example, if a delivery comes earlier and cash is not available and the customer might have other priorities, it creates inconvenience. The fees for Cash-on-delivery was a big cause of dissatisfaction. Therefore, businesses could charge more if this form of payment is preferred in order to perhaps encourage more Card-based payments.

On the other hand, flexibility, rewards and convenience act as pull factors which are encouraging consumers to use Card-based payments. The participants discussed how buying now and paying later or paying in instalments is attractive for Card-based payments methods especially when there are loyalty schemes involved. The convenience with paying hassle-free without worrying about cash and change is also attractive for Card-based payments, especially when orders arrive at unexpected times.

Furthermore, the mooring factors (factors that are related to social impact, individual circumstances, mental factors or values) that were identified in this context are subjective norms, awareness of incentives to using Card-based payments, the legal status of the businesses, ease of use, lack of trust, perceived risk and product uncertainty perception. These factors have a massive role in impacting the decision of switching from Cash-on-delivery to Card-based payments for the Egyptian customers. For example, the findings revealed how the participants' choice of payments rely on expectations set by friends and families who use cards and share their opinions such as ease of use or usefulness. Many customers are also wary about the legitimacy of the business. The participants in this study prefer to shop using social media platforms, but are aware that these businesses are small and might not be registered and thus do not feel safe to use their cards. Card-based payments is also seen as taking more time than Cash-on-delivery because of security aspects such as one-time passwords (OTP) and is therefore something which stops the customers from choosing it. The idea that online businesses might not be helpful when returns and refunds need to be made also usually leads to lack of trust and perceived risk. In addition, it seems that the Egyptian customers want to know that the product they ordered is the right one and received in good quality - physically checking before paying is important and thus Cash-on-delivery is the appropriate method of payment for them.

Figure 3: PPM for Cash-on-delivery and Card-based payments for online Egyptian customers



Source: Authors (2023)

Value

This study has extended the knowledge on consumer behaviour theory and switching intention behaviour in several ways. Firstly, it looks at an under-researched context as in spite of vast literature on consumer behaviour in online shopping, there is a lack of studies focusing on emerging markets including the Egyptian one. Secondly, it shed light on the factors which might encourage Egyptian consumers to switch their intention from using Cash-on-delivery to using Card-based payments such as rewards or convenience. Thirdly, a very important contribution is the adaptation of PPM to the research context and a development of PPM for payment method switching behaviour (Cash-on-delivery to Card-based payments) as seen in Figure 3. Finally, adopting a qualitative approach when researching this topic brings an additional contribution to methodology as most studies were quantitative in nature and did not shed light on the 'why' of switching buying behaviour.

Findings of this research can be used as reference for businesses who sell online and operate in the Egyptian market to help improve their marketing strategies in terms of relevance to the needs and expectations of the Egyptian consumers. The Egyptian government is encouraging individuals and businesses to use online payment methods as the main method of payment, this study will help businesses and the government understand what are the drivers of using Card-based payments in Egypt.

Research limitations and outlook

The main limitation of the study is that it consisted solely of participants residing in urban communities and with high educational degrees. Future research should consider expanding the sample size to include individuals from other varying backgrounds to provide a more comprehensive understanding of this under-researched market. For example, there is a need to investigate online consumer behaviour among individuals who do not possess high educational degrees or reside in urban areas as this could have a significant impact on their experience and consequently, the results obtained.

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FOOD PACKAGE AND HEALTHY PRODUCTS: THE ROLE OF BRAND, PACKAGE COLOR, CLAIM AND NUTRITION LABEL

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Health, nutrition, food sector, claim, label, color, brand

Introduction

Packaging is considered a relevant tool in marketing strategies. First of all, it is considered a means of communication and it becomes a crucial factor in the consumer decision-making process. Food package is used by consumers to anticipate the consumption and it creates expectations about the product: if a package communicates a healthy image, consumers will infer that the product is good for the health and diet. With the increase of food-related diseases (Ng et al. 2014) and the growing focus on healthy nutrition, health-concerned consumers have become a relevant market segment. In order to serve this segment, companies have started to use packaging as a marketing tactic to make products seem healthy (Hallez et al., 2023) using a variety of package elements (Folkes and Matta, 2004, Wansink and Van Ittersum, 2003).

Purpose

The present works intends to contribute to the literature by adding a piece of knowledge regarding the effect of different package elements on the perceived health image of products from the perspective of the consumer. In doing so, we will test different combinations of package cues in order to find out on which elements consumers rely in order to develop their own health image and which is the best possible combination. Among all the different variables of the package, the present work focuses on both visual and informative aspects: colour, brand, claim and nutrition label, given their role in influencing healthy food choices.

Conceptual framework

Colour. Several contributions have tested the importance of colours in decision making process and have estimated that 62–90 per cent of persons' assessments and evaluations is based on colour alone (Labrecque et al., 2013; Mohebbi, 2014). According to the literature, package colour is used by consumers to anticipate different aspects of the products: quality, taste, healthiness (Tjissen et al, 2017). Thus, package create expectations and sensory associations (Spence and Velasco, 2019).
Claim. The presence of health claim on the package related to a specific ingredient or nutrient induce customers to assume that the product is overall healthier compared to a product contained in a package with no health claim, producing a health halo effect (Chandon, 2013; Oostenbach et al., 2019).
Brand. It is considered an important heuristic for consumers and a fundamental source of information in the decision making process. If the brand communicates health values, consumers will infer that the product is healthy (Masterson et al., 2020). Consequently, consumers will develop positive attitudes toward those brands and this will increase the probability they will buy the brand (Kemp and Bui, 2011).
Nutrition label. Their aim is to communicate nutritional quality and facilitate comparisons of food products within and between food categories. They also increase consumer knowledge and promote more healthful choices. The presence of labels is associated with selecting foods high in some beneficial nutrients (such as fiber) and avoiding foods high in some harmful components (such as sugar, fat, and cholesterol) (Talati et al, 2019).

Methodology

The present study uses a conjoint analysis, which is a method designed to evaluate factors that influence consumers' product preferences for different attributes and perceptions (Broeckhoven et al., 2021; Godden et al., 2023). The conjoint analysis has been used to understand the relative importance weights for packaging elements that enhance consumer perception about the healthiness of a products in the cookies category. Based on the results obtained in literature, we included in the analysis four package elements and we tested different levels: colour (green, orange and white), claim ("low in sugar" and "no added sugar"), brand (market brand, healthy market brand, specialized market brand, own brand and healthy own brand) and nutritional label (NIP, Traffic Light and HSR).

Findings

Results of the analysis showed a significant higher impact of brand (with a perceived utility of 43,8%), followed by the nutrition label (24,1%), colour of the package (19%) and the claim (13.1%). Specifically, healthy own brands and own brands were found to communicate a healthier image of the product compared to market brands. Regarding the nutrition label, HSR was found abler to communicate health compared to the others. Orange colour was more associated with health and "low in sugar claim" was the level that obtained the higher perceived utility.

Contributions

The main contribution of the study regards the brand. Past research highlighted that consumers tended to consider market brands to be of superior overall quality to own brands (Bold, 2014). However, own brands benefit from a healthier image. This result is in line with more recent studies, that have analysed the nutritional quality of the market brand and own brand assortments and have found that own brands sometimes are nutritionally superior to market brands (Beacom et al., 2021).

Practical implications

This result creates opportunity for retailers to promote product characteristics (nutritional profile) of own brands, since the perceptions of customers fit the actual nutritional quality of the products. Communicating the comparative healthiness of their own brands over market brands can increase the brand equity of retailers and provide a competitive advantage. As a matter of fact, healthiness has been recognized as one of the main food characteristics that explains customers' choices (Machin et al., 2020). Building a solid healthy brand image can be a successful strategy that differentiate the offer in the market. Colors, claims and nutrition labels serve as support to the definition of healthy brand images.

Research limitations and outlook

Some limitations must be cited. The major concern can be related to the type of stimuli presented through the software used: verbal descriptions were used to present the different combinations of package elements instead of using images. The usage of words recreated a situation that was far from the real situation that shoppers experience inside the stores, together with the fact that participants were asked to compare two products at a time, and they did not face the complex situation they are used to find in real stores. Further research can analyse more in depth the role of the brand in different categories using a combination of qualitative and quantitative methods.

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DEAR JOHN LETTERS FROM ELECTRICITY RETAILERS: PERCEPTUAL DIFFERENCES IN CORPORATE COMMUNICATION

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Introduction

The price of energy is becoming more expensive overall because of macro-environmental factors, and as a trillion-dollar industry (IEA 2022), it has a significant socio-environmental influence. Increasing expenses brought on by tighter labour markets, high power prices, and rising costs due to supply chain pressures have significant societal consequences, which are more pronounced for households in financial distress. The International Energy Agency (IEA) postulates that the total energy bill paid by consumers surpasses $ 10 trillion, and the cost would reverberate significantly into the poorest portions of society (IEA 2022). The UN addresses this in SDG 7, which aims to ensure clean and affordable energy access. In the Australian electricity market context (Nepal & Foster 2015), market privatisation ushered in another set of complexities in accessing affordable electricity. With increasing costs associated with electricity generation, a consequent increase in electricity prices resulted in

electricity retailers passing on the costs to consumers. However, in some cases, the retailers expressed interest in terminating customer patronage as evidenced in the Australian context.

These retailers developed relationship termination letters that doubled as apology letters in response to the rising electricity rates brought on by macro and micro issues. They also advised clients to sign up with larger electricity suppliers. This study investigates how consumers perceive these relationship termination communications as altruistic or egoistic and the underlying psychological justification for such perceptions. Given the novelty of such a scenario, recipients can perceive this as egoistic or altruistic.

Conventional business wisdom advocates customer patronage and the relationship between customers and companies as pivotal to organisational success (Arbore & Busacca 2011; Dick & Basu 1994). Therefore, customer retention strategy contributes to growth and profit (Byrnes & Wass 2021; Kumar 2018; Reinartz & Kumar 2002). However, in the $11.5 billion Australian electricity retailing market (AEMO 2021), electricity retailers communicated with customers relaying their intention to terminate electricity provision to all customers irrespective of their value and length of being served by those companies.

The concept of customer retention and, more specifically, the mismanagement of non-valuable customers is covered extensively in business research (Byrnes & Wass 2021; Kumar 2018; Reinartz & Kumar 2002). Reinartz and Kumar (2002) explain the concept of "barnacles" as a segment with low customer lifetime value but a high degree of loyalty, thereby costing businesses to serve this cohort. Current literature has extensively focused on strategies for defining customer value (Kumar 2018) and managing customers based on their value (Byrnes & Wass 2021). It is, therefore, common practice and sensible for businesses to choose lucrative customers. However, asking entire customer bases to leave is an unprecedented scenario of abnormal business behaviour that has hitherto been under-researched.

Purpose

According to a comprehensive evaluation of the literature on altruism and egoism in the context of marketing tends to concentrate on Self-Benefit Versus Other-Benefit and its impacts on consumer behaviour (White & Peloza 2009). Surprisingly, little research since 2009 has been done to examine how consumers feel about marketing messages intended to assist them, notably when it is thought that doing so will harm the company's bottom line. This suggests that research on how customers view businesses taking a financial hit 'voluntarily' is understudied in our context, a gap that we want to fill in this study by looking at how Australian electricity providers advise or ask customers to quit, regardless of their perceived worth.

In the marketing literature, there are several taxonomies of non-profitable customers, including Profit Drains (high-revenue but low-profit or loss customers), Profit Deserts (low-revenue/profit customers) (Byrnes & Wass 2021), Barnacles (highly loyal but not very profitable customers) (Reinartz & Kumar 2002), and others. However, conventional marketing literature considers retaining the 'good/profitable' customers and jettisoning the 'bad/unprofitable' customers. Smaller Australian electricity retailers rejecting their entire customer base is a unique scenario warranting further research. However, such messages can be perceived as altruistic or egoistic; hence, our overarching research question is: *Why do customers perceive relationship termination communication as Altruistic or Egoistic?*

Design/methodology/approach

The study explores this research question through a multi-method approach commencing with a structured literature review, a netnographic study, and semi-structured customer interviews. Firstly, to identify the gaps in the current literature, we adapted the systematic and transparent

process explicated in Tranfield, Denyer and Smart (2003). A netnographic research design is ideal for studying consumer preferences, especially when there is a question of authenticity (Beverland, Farrelly & Quester 2010; Kozinets 2002). Therefore, we conducted a netnographic study following Athwal and Harris (2018), as consumption communities offer an archetypal setting for research. Following this, 18 semi-structured interviews provided an in-depth insight into customer perceptions associated with the companies' customer "break up" messages.

By conducting a thematic analysis, the researchers employed abductive reasoning, a form of inference where they combined observed patterns and data to generate plausible explanations and interpretations of the electricity customers' perspectives. This analytical approach allowed the researchers to move beyond the surface-level findings and infer underlying meanings and connections among the identified themes, thereby understanding the customers' viewpoints comprehensively. Abductive reasoning enabled the researchers to make logical inferences and draw insightful conclusions, contributing to the overall richness and depth of the research findings.

Findings

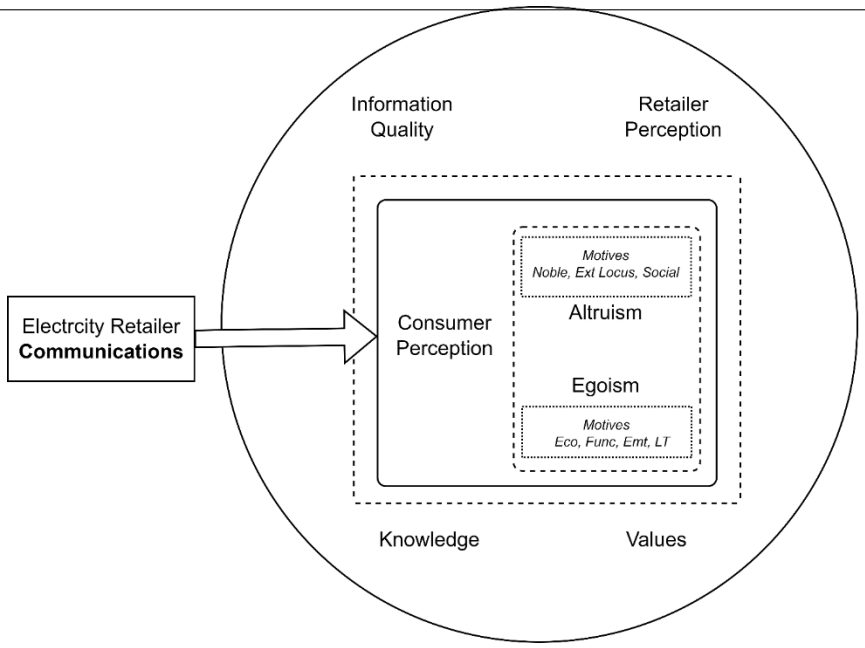
Information quality, store characteristics, knowledge, socio-environmental values, and other factors can all impact how stakeholders view messages persuading customers to end their ties with service providers.

Results indicate that organisational traits, socio-environmental values of both organisations and customers, energy market knowledge, and information (from corporate, government, market comparison, and other third-party websites and social media) are important antecedents to consumer perceptions.

According to the interviews, the respondents in this situation value the accuracy of information. Interviewees sought more individualised information on their accounts, how this would affect their financial situation and access to services, and the consequences of the pricing adjustments.

Retailer features significantly influence consumer views. Consumer judgements of marketing communications as altruistic or egoistic depend heavily on factors like the place of origin, retailer size, and other aspects of the electrical retailer.

Altruism perceptions can also be influenced by the socio-environmental values of the business and the client, including identifying situations where value congruence exists. However, this is not just restricted to the retailer delivering these emails; other businesses' social inaction might lead to egoistic perceptions of particular corporations. The evidence points explicitly to egotistical motivations arising from economic circumstances (profit making, avoiding loss, and business survival) confronted by energy retailers as being egoistic. Altruistic impressions can be influenced by good intentions such as open and transparent communication, the idea that organisations have little control over geopolitical variables, consumer self-identification with their electrical providers, and those providers' perceived economic needs.



Although either altruism or egoism can dominate human behaviour (Bennett 2003), they can be "motivated by both altruism and egoistic motives simultaneously" (Amos, Holmes & Allred 2015, p. 135). Our research supports this as respondents' perceptions of the company's marketing communications are altruistic and egoistic. The figure demonstrates how many antecedents influence these views. Focusing on functional, long-term, emotional, and financial considerations can affect how an egoistic person perceives discussing ending a relationship. On the other hand, altruistic perceptions of such communications may be influenced by communications with moral intentions in situations involving problems outside the organisation's sphere of influence and with societal objectives.

The findings of this research can potentially improve perceptions of electricity providers vis-à-vis their customers. Corporate communications could be perceived as in the interests of customers (altruistic) or electricity retailers (egoistic). Altruistic perceptions can be influenced by customers' good intentions, such as open and transparent communication, a lack of organisational control over geopolitical issues, customer self-identification with their electrical providers, and their perceived economic necessities. Conceived motivations

resulting from the economic conditions that energy retailers confront (profit making, avoiding loss, and business survival) might be seen as egoistic.

Contributions

The concept of customer retention and, more specifically, the mismanagement of non-valuable customers is covered extensively in business research (Byrnes & Wass 2021; Kumar 2018; Reinartz & Kumar 2002). It is, therefore, common practice and sensible for businesses to choose lucrative customers. However, asking entire customer bases to leave is an unprecedented scenario of abnormal business behaviour that has hitherto been under-researched. This study provides unique insights into how customers perceive such communications that terminate customer relationships. This study reveals consumers' altruistic or selfish attitudes regarding a request to switch electricity providers, which could be helpful in various forms of customer communications.

Practical implications

It might make sense to ask customers to leave rather than keep them, even if doing so would be to the financial detriment of the electricity retailer. As evidenced in this study, in situations where retaining customers would result in losses rather than profits due to the uncertain and volatile nature of the electricity market. The axiom that client retention is the best strategy for success and survival is contradicted by this concept and the strategy that results from its application. Therefore, the research shows that encouraging customers to leave and find other electricity providers may be the best action. Customer retention may not be optimum. Managers should heed how electricity retailers in the Australian market have implemented the controversial idea of asking customers to leave. However, for better customer perception, communications should be well-designed, as evidenced in this study.

Managers should consider how customers would react to an electricity retailer's request to depart when faced with a spiralling price increase and unable to sustain and offer customers a

competitive or steady power price. Managers in different businesses can learn from this research about how customers view communications addressed to them. We suggest scenarios such as data/system/security breaches, customer data theft, threats to post customer data on the dark web, ransom requests, natural disasters, contaminated products, product recalls, and other corporate scandals. Our research has revealed opportunities to investigate how stakeholders and customers might understand these interactions because perception is "reality."

Social implications

According to the International Energy Agency (IEA), consumers spend more than $10 trillion on energy annually, with the lowest segments of society bearing the brunt of the financial burden (IEA 2022). SDG 7 of the UN tackles this and seeks to guarantee access to clean and reasonably priced energy. According to Nepal and Foster (2015), market privatisation introduced new challenges to obtaining reasonably priced electricity in the Australian electrical market. Power prices increased due to electricity retailers passing on the expenses to customers due to rising electricity generation costs.

Research limitations and outlook

Although the study involved analysis of real-world netnographic data, future research should quantitatively study the strength of different antecedents to consumer perceptions of altruistic and egoistic messages from companies. The qualitative data from the interviews recorded a 'snapshot' of the relevant views of the respondents based on their perceptions of altruism and/or egoism at a point in time during the data collection and, therefore, cannot be generalised. Experimental studies focussing on stakeholder perception could be valuable in addressing this limitation. Despite this limitation, these findings contribute to the literature on utility service perceptions and raise relationship termination communications to the fore of further research.

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CUSTOMER PREFERENCES IN LAST MILE DEEP-FREEZE B2C LOGISTICS

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Abstract

Purpose – The purpose of this research is to determine last mile solutions for temperature-controlled frozen logistics. Customer preferences regarding different last mile solutions will be evaluated.

Design/methodology/approach – As a first step, direct and indirect delivery options are juxtaposed using existing literature. The last mile delivery options are then compared with the needs of the customers, which were studied by means of an online questionnaire. A large sample of 2,283 responses was collected to gather information on consumer preferences. The survey was conducted among the customer base of an Austrian deep-frozen grocery retailer.

Findings – Based on the survey it was found that customers value personal home delivery service and only a small number of survey participants are open to using new (indirect) delivery concepts for their deep-frozen grocery deliveries. Nevertheless, the results showed that younger generations are more open to new delivery alternatives, so the potential for use should be given among younger customer groups. The pick-up station is best suited to create a convenient pick-up point for customers, which is even 24/7 available. For the other indirect forms of delivery (click & collect, drive-in), mainly stores or warehouses should be selected as locations that can be combined with customers' everyday errands or trips.

Practical implications – The research promotes different delivery options for the last mile. The survey results outline consumers' attitude and requirements regarding last mile delivery and thus show which potential delivery alternatives should be prioritized for the deep-frozen grocery retail industry.

Originality/value – The development of distribution concepts for shipping frozen groceries is particularly demanding compared to deliveries of dry goods due to the need for constant compliance with the demands of cold chains. Customers' requirements are particularly crucial in that regard. This study helps to understand customers' preferences and implement last mile delivery solutions which meet their needs.

Keywords Logistics, food retail, last mile, delivery concepts, deep frozen products

Paper type Research paper

Author Biographies

Andrea Massimiani was a professional tennis athlete, studied economics at the Johannes Kepler University Linz and gained extensive experience in banking and industry. She is a PhD candidate at the University of Bremen and research associate at the University of Applied Sciences Upper Austria, leading the SCORE (Scouting the Future Of Retail) initiative in logistikum.RETAIL with research focus on trend monitoring, corporate foresight and retail logistics.

Sarah Pfoser studied economics at the Johannes Kepler University Linz (diploma 2014). She obtained her doctoral degree from the University of Bremen in 2021. Sarah Pfoser is working as a senior researcher at the Logistikum Steyr, the logistics department of the University of Applied Sciences Upper Austria. Since 2013, she has managed several international and national research projects on the topic of sustainable freight transport and logistics. Her research is intended to promote sustainable innovation in the logistics industry and facilitate the implementation of the circular economy.

Oliver Schauer studied law at the Johannes Kepler University Linz and completed an executive postgraduate program at LIMAK Johannes Kepler University Business School. He is professor at the University of Applied Sciences Upper Austria, School of Business and Management, with emphasis on the fields of sustainable transport, Physical Internet and Digital Transformation and head of studies of the master program “Digital Transport- and Logistics-Management.

Introduction

The spread of the Internet and the associated increase in networking among the population are influencing the economy and the life of our society. It can be concluded from this that progressive digitization is contributing to an upswing on the Internet as a sales channel and thus to a change in consumer behavior (Wenger 2019).

In Austria, the non-food range continues to dominate online retailing. Alongside book retailing and electrical appliance retailing, the clothing industry is one of the most successful distance selling merchandise groups. But also online grocery has gained in importance in recent years. During the Covid-19 pandemic, e-commerce sales for the grocery industry saw growth. Food and beverage sales increased 38% year-over-year in 2020. Current surveys confirm the continuation of this trend and thus it is necessary to manage the increasing demand in logistics (Schröder and Wenger 2019).

Social and economic trends are also impacting the implementation of last mile logistics. These trends go hand in hand with changing customer requirements. Thus, from the perspective of logistics service providers, it is important to meet these requirements regarding the last mile. Appendix 1 takes a closer look at the trends of urbanization, demographic change, individualization, technological development, and the online boom in food retailing to illustrate the urgency of finding solutions for the last mile (Witten and Schmidt 2019).

With regard to transport and storage requirements, food can be divided into three different categories. A distinction is made between dry, fresh and frozen products. Temperature requirements vary depending on the product category. Dry goods can be transported or stored without refrigeration. If the outside temperature drops below 0 °C, it is necessary to protect the goods from frost. The fresh and frozen assortment requires a temperature-controlled transport chain. The specific temperature requirements may vary depending on the product and manufacturer's specifications. Frozen products may be transported and stored at a maximum of -18 °C, while chilled goods require a temperature of between 2 °C and 9 °C, depending on the product group. Due to the need for constant compliance with the (deep) cold chain, temperature-controlled transports are more demanding and sensitive than dry assortment deliveries (Rothländer 2023).

In distribution logistics, the last mile represents the final transport leg of the goods to the customer (Tripp 2019). It is a one-to-many distribution process, as several customer orders are combined on one delivery tour, which are then delivered separately and sequentially to the customer stops (Tripp 2021). Due to the low shipment volumes and the geographically dispersed customers to be delivered to, this section usually results in disproportionately high costs compared to the rest of the supply chain (Pfohl 2018).

As consumer behavior changes in favour of e-groceries, the number of shipments in logistics consequently increases as well (Göpfert 2019). Each end customer that has to be supplied represents a stopover and leads to longer routes that have to be covered by the logistics service provider. These routes and stopovers are part of the last mile, i.e., the last link in the supply chain from the logistics service provider's depot to the end customer (Umundum 2020).

As demand increases, the structure of the last mile described above can lead to capacity bottlenecks in distribution, which in turn leads to new challenges in logistics. This is because, in addition to the high number of stopovers, the low level of planning certainty due to fluctuating demand is considered particularly challenging. This additional effort is reflected in rising costs and a growing volume of traffic. From an economic point of view, the last mile in logistics is particularly relevant, as disproportionately high costs are incurred in this section compared to the rest of the supply chain (Brabänder 2020).

The aim of this paper is to evaluate consumers' preferences for last mile frozen food logistics in the B2C segment of the grocery trade. Existing literature predominantly considers non-refrigerated delivery alternatives for the last mile (Manner-Romberg et al. 2022). The goal of this research is to adapt these possible solutions for use in temperature-controlled frozen logistics. For example, stationary pick-up points, which could be realized with a Click & Collect concept or temperature-controlled pick-up boxes, would be suitable. These possible solutions should be feasible in practice for food retailers (Oró et al. 2013).

In order to address the problem, the following research questions need to be discussed. First, it is investigated which concepts already designed in research are suitable for food retailing. For this purpose, the first research question was formulated:

RQ 1: Which concepts of last mile delivery can be applied to deep-frozen grocery logistics?

The next step is to analyze what grocery retail customers expect from deep-frozen food delivery and to what extent consumers would participate in the delivery process to help shape the last mile more efficiently. To analyze this, the second research question is:

RQ 2: Which preferences do consumers have regarding last mile solutions for deep-frozen food logistics?

Research approach and methodology

This paper looks at the solutions described in the literature for the last mile and the status quo of the concepts used in practice, which were then evaluated for use in temperature-controlled frozen logistics. In order to meet the requirements of the customers and to implement practical solutions, a customer survey was conducted in the course of this work. In this survey, the potential willingness to use various delivery solutions as well as requirement criteria for the last mile from the customer's point of view were collected. The following figure shows the individual method steps and the results achieved:

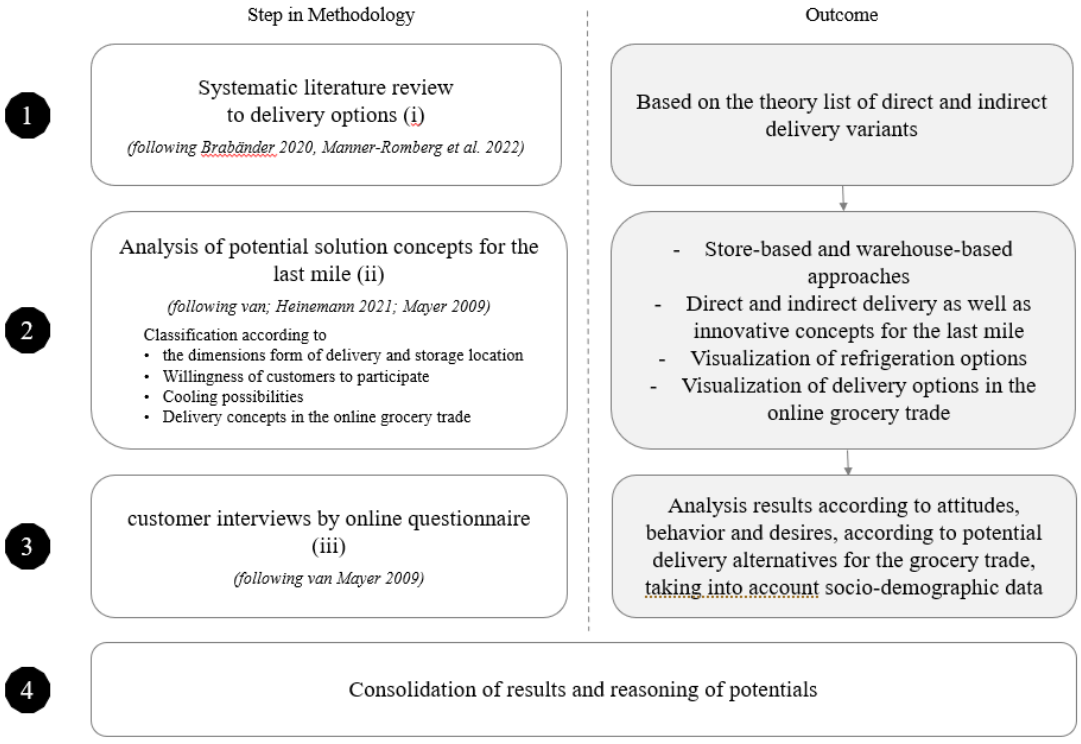

Figure 1: Research Approach and Methodologies of the Paper

A survey among active customers of an Austrian deep-frozen grocery retailer was carried out to determine the potential for implementing alternative forms of delivery on the last mile for the grocery trade. This took the form of a written online questionnaire. In view of the high coverage and cost-effectiveness of the survey, the internet was chosen as the medium for data collection. The anonymous online survey can exclude the influence of the participants by the investigator (Mayer 2009; Pfohl 2018). For the survey, active private customers of the deep-frozen e-groceries were invited to participate in the course of sending out the monthly newsletter on May 9, 2022. In order to achieve a higher response rate, a lottery was included as an incentive for the customers. The newsletter was opened by 15,743 of the 43,067 recipients. The survey link was opened by 3,264 customers. In the period from 09.05.22 to 19.05.22. 2,283 customers took part in the survey. Of these, 160 people abandoned the survey prematurely. Their data was therefore not taken into account in the evaluation. On the first day, 1,765 completed questionnaires were collected. On the following days, the number of participants was strongly declining. In the course of the survey, socio-demographic data of the participants were anonymously determined in the last part of the survey. 77.53 percent of the respondents were female. The age group of 35 to 44 years represented the largest share of participants with 27.13 percent. The number of participants in the remaining groups ranged from 13.19 percent to 23.13 percent.

The questionnaire contained 19 items to collect information on consumers' ordering behavior, attitudes, and sociodemographic data. The sociodemographic data were collected at the end to account for the fatigue effect. The questionnaire was structured as follows:

Part 1: current ordering behavior as well as customer satisfaction with regard to the delivery service in grocery stores to describe the sample.

Part 2: Items about attitudes, behavior and wishes of consumers regarding alternative delivery concepts or regarding the delivery service.

Part 3: socio-demographic data.

Since the questionnaire was sent to active customers in the grocery trade (Heinemann et al. 2019) the internal marketing department was involved in the design of the survey. This department made small changes in the wording or phrasing of the questions and added the optional participation in a lottery to increase the willingness to complete the questionnaire.

Before the questionnaire was used for the survey, a pre-test was conducted. Participants had varying levels of prior knowledge on the topic. The questionnaire was revised to this effect and then released for the survey.

The literature section of this paper served as the basis for the online survey questions. Both closed questions and evaluation questions were formulated for the questionnaire. Since the sequence of questions was fixed and answer options were predefined, it was a structured and standardized survey. In the questionnaire, all questions were categorized as mandatory questions, so that only fully completed questionnaires were included in the evaluation. In order to avoid answer bias, additional answer options were formulated for individual questions to serve as a residual category (e.g. "Other") (Mayer 2009).

Last-mile solutions for deep-frozen B2C logistics

A number of delivery alternatives already exist for dry food transport. In the case of direct delivery, which is currently considered the most popular delivery option among end consumers, advanced solutions are already offered so that the presence of the customer is no longer required and consequently the goods can already be handed over at the first delivery attempt. Due to the

need to maintain the frozen food cold chain in the last mile delivery of deep-frozen groceries, the delivery of goods at the destination address without the presence of the customer is only conditionally suitable. In addition to impersonal handover of goods, organizational measures such as fixed time slot allocations to recipients or deliveries at off-peak times can also help to circumvent the mostly work-related absence of consumers.

Indirect concepts, where customers pick up the order, offer resource-saving and efficient delivery options, as it is no longer necessary to transport goods to the consumer's home address. This can increase the bundling effect, shorten the last leg of the last mile from a company's point of view, and relieve the burden on the infrastructure, provided the solutions are placed in highly frequented locations with good transport links. The existing branch structure could be used to implement indirect delivery options. Store-based pickup would be particularly suitable as an alternative to direct delivery to implement the Click & Collect service in the existing store network. The extended drive-in solution is currently only suitable for individual store locations due to the increased space requirements. A drive-in system is already being used in some stores, the concept could be expanded to include the transfer of goods ordered online without the need for structural measures. Since the use of indirect concepts requires the willingness of customers to participate, this must be evaluated in advance.

Innovative concepts are also expected to establish themselves on the logistics market. The lack of a legal framework for innovative direct delivery solutions, such as delivery by drone, rules out broader implementation in the foreseeable future. Therefore, these direct solution approaches are not considered in more detail due to their current low relevance. For trunk delivery, technical conversions are required for customers' private cars. Due to the economic effort involved, the relevance of this solution is rated as low. Microdepots or mobile hubs could help position closer to customer locations. However, it remains open whether this concept is economically suitable for the current customer density and order frequency (Göpfert 2019). Unstaffed stores are only moderately suitable due to the product group-specific range of products. Cooperation with major retail partners could be considered here so that customers can be offered a wider range of products in unstaffed store boxes.

The market participants usually offer a very wide range of products. Product group-specific B2C retailers offering their own online store are rare in the online frozen food trade (Oró et al. 2013). Some domestic retailers use indirect delivery methods to deliver to customers in addition to direct delivery. Retailers with limited frozen food assortments usually offer shipping, with transportation handled by logistics service providers. This form of delivery would also be conceivable for customers who live in remote areas, as the bundling effect can be increased if the last mile is outsourced to a logistics provider.

To summarize, five delivery concepts (Figure 2) are suitable for the last mile delivery of deep-frozen groceries: home delivery in the supervised form as well as in the unsupervised form and the indirect delivery services Click & Collect, Drive-In and pick-up at pick-up stations. In the following, customers’ preferences regarding these delivery concepts will be revealed.

Criteria	Expression						
Form of delivery	direct			indirect			
Solution possiblity	Home delivery	Workplace delivery	Home delivery with unattended storage of goods	Parcel store	Click & Collect	Drive in	Pick-up station
Customer presence at delivery	required	not required (takeover by colleagues)	not required				
Good acceptance times	Bound to predefined delivery date	Passively cooled 12-24 hours after filing	12-24 hours after filing	Bound to opening hours of the parcel store	bound to opening hours of the branch of warehouse		continuous availability
Location of the delivery point	House proximity	Workplace	Close to home	Residential			
Structural measures/technical conversions	not required					required	
Requirments for deep-freeze logistics/other requirements	active cooling	passive cooling required, unless employer can store goods temporarily frozen, employer's consent required	Passive cooling required to ensure cold chain is maintained even when unattended	Passive cooling required if the parcel shop provider cannot temporarily store the goods frozen (guarantee of compliance with the cold chain is outsourced to a third party - critical with regard to quality).	Active cooling possible, provided the pick-up locations are close to home, as the cold chain must not be interrupted for too long after the goods are handed over		
Suitability for delivery of frozen goods	+	-	+	-	+	+	+

Figure 2: Classification of last-mile solutions for deep-frozen B2C logistics

Survey results on customer preferences

In the survey, the customers first rated the importance of some aspects considered relevant for the delivery of frozen groceries. Free shipping was one of the most important criteria when ordering frozen food. This result is also in line with a study by Buldeo Rai et al. (2019).

A differentiated result was shown when comparing the two categories of environmentally-friendly packaging and environmentally-friendly delivery. The surveyed customers rated eco-friendly packaging more important than eco-friendly delivery. Further differences are visible in the group-specific evaluation by gender. The criterion of environmentally friendly delivery was more important to the male participants in the survey than that of the female participants. In contrast, the aspect of environmentally friendly packaging was rated more important by women than by men.

When evaluating by age-specific groups, it became visible that the aspect of environmentally friendly delivery was more important to the older respondents than to the younger respondents. In contrast, the criterion of evening delivery became less important with increasing age. The older the customers surveyed, the more important the aspect of environmentally friendly delivery as well as environmentally friendly packaging was rated.

With regard to the preferred shipping time, it was found that the majority of customers desire a delivery within 2 to 3 days or one week. A small proportion of respondents found a shipping time of 1 to 2 weeks acceptable. Only a small fraction of customers would prefer delivery within 24 hours. Less than a quarter of respondents did not care about the delivery time. The proportion of women who were indifferent to delivery time was significantly higher. Older customers, over the age of 55, were more willing to accept a longer delivery time of a week or 1 - 2 weeks.

Subsequently, the survey analyzed the willingness to use the different delivery methods (Figure 3). The analysis showed which delivery concepts for deep-frozen food delivery are prioritized by the customers. Customers had the opportunity to rate the individual delivery methods on a scale ranging from "I would definitely not use", "I would rather not use", "I would rather use" and "I would like to use". The customers surveyed clearly preferred home delivery conducted by the grocery retailer. Thus, based on this evaluation, personal direct delivery by the grocery retailer scored best. This is followed by direct delivery conducted by a logistics service

provider. Out of the indirect delivery solutions, the pick-up station was most preferred. The drive-in and click & collect solutions were least preferred. The younger survey participants were generally more willing to use alternative indirect delivery solutions while older participants clearly prefer personal direct home delivery by the retailer.

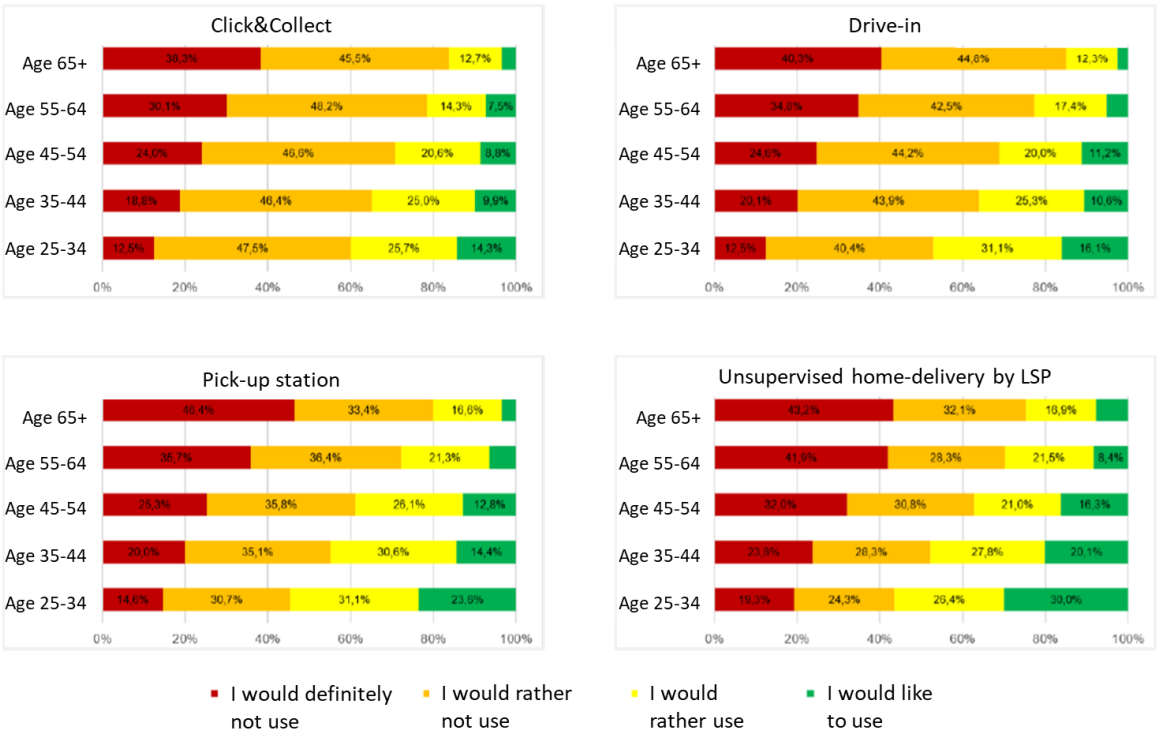

Figure 3: Acceptance of last-mile solutions for deep-frozen B2C logistics by age group

The willingness to pay for the individual delivery alternatives was rated very low by respondents for all delivery forms. For the delivery form of home delivery by the logistics provider, respondents were most willing to pay for the delivery service. The willingness to pay was lowest for the use of the drive-in delivery service.

In the case of indirect delivery with self-pickup service (click & collect, drive-in, pickup station), the survey investigated how many kilometers customers would be willing to travel to obtain their ordered goods via click & collect, drive-in or the pickup station. One-fifth of the respondents would use indirect delivery only if the pick-up location was on the route of their daily trips or errands. A quarter of the participants would accept a detour of up to 3 km. A small number of the customers surveyed would be prepared to accept an extra trip of up to 12 km to pick up the goods. Less than a quarter of the respondents said they would not use the service at all. Among all potential users of the self-pickup service, the median score was "up to 3 km." The older the survey participants, the less willing they were to make a detour for pickup and use the indirect delivery service. When asked which mode customers would use for the self-pickup service, three-quarters of respondents said they would use the pickup service as part of their commute home (e.g., from work or in combination with other shopping activities). Only a small proportion would use public transportation for pickup. One-fifth of the customers surveyed would be willing to walk, bike, or take an additional car trip to pick up the goods.

The evaluation by gender showed that women would be more likely to pick up the goods in the course of getting home from other activities. In contrast, men would be more willing to take an additional car trip to pick up. Among the group of participants over 64 years of age, there was

an above-average proportion of consumers who would accept an additional car journey. Therefore, compared to the average, only a small portion of this group indicated that they would make the pickup as part of a trip home.

The preferred daytime for using the self-pickup service rather evenly distributed. 40% of the respondents would use the service in the morning, and 45% would use it in the afternoon and 48% in the evening (multiple answers were permitted). In the final question regarding the importance of individual criteria about the self-pickup service, efficient arrangement of pickup with everyday routes was rated as very important, while quick delivery of goods and provision of refrigerated bags and off-peak pickup options were rated as somewhat important. Female and young respondents rated the importance of the criterion "pick-up location is easily compatible with everyday commutes" higher than males and older respondents (55+). The importance of the criterion "pick-up facilities at off-peak times" decreased with increasing age.

Conclusion

Consumers value direct home delivery service. Among the indirect delivery options, the willingness to use the pick-up station was rated the highest. When it comes to using a pick-up station, two third of the survey participants said they would tend to or would like to use this indirect form of delivery. Only 3 out of 10 participants would like to use or rather like to use the Click & Collect or Drive-In delivery option. It was found that the willingness to use all forms of indirect delivery is higher among younger participants. Among potential users, a quarter of respondents wanted a pickup location that was directly on the routes of everyday trips or errands and thus did not require an extra trip in the course of pickup. To increase the attractiveness of using indirect delivery alternatives, the placement of the pickup location should therefore be well chosen.

Theoretical implications

Social and economic trends are impacting the implementation of last mile logistics. These trends go hand in hand with changing customer requirements. Thus, from the perspective of logistics service providers, it is important to meet these requirements regarding the last mile. Appendix 1 takes a closer look at the trends of urbanization, demographic change, individualization, technological development, and the online boom in food retailing to illustrate the urgency of finding solutions for the last mile.

The trend of urbanization means that the volume of traffic in cities will increase. Therefore, it is necessary to develop solutions that ensure supply in both rural and urban areas. Demographic change implies a reduction in the available workforce. Digitization measures and the use of autonomous technologies are intended to reduce the need for personnel in order to counteract this trend. Individualization has already established itself at the product level. In addition, customers want a range of individual services, which logistics service providers believe will have to be offered in the future. The latest trend of the online grocery boom was accelerated by the Covid-19 pandemic. Many customers bought groceries online for the first time in recent years. According to current forecasts, this trend will continue.

Practical and social implications

The practical relevance of the research relates to (i) the investigation of direct and indirect delivery options in grocery retailing, (ii) which solution options with flexible pick-up locations and time windows consumers prefer, and (iii) a synthesis of potentially relevant concepts for online grocery retailing based on empirical research. Driven by the socio-economic trends

explained above, grocery retailers have the opportunity to develop both consumer-optimized last-mile and sustainable last-mile business models.

Accordingly, five delivery concepts are suitable for delivery to grocery customers: home delivery in the supervised form as well as in the unsupervised form and the indirect delivery services Click & Collect, Drive-In and pick-up at pick-up stations.

Based on the survey, it was found that customers value personal delivery service and only a small number of survey participants are open to using new delivery concepts. Nevertheless, the results showed that younger generations are more open to new delivery alternatives, so the potential for use should be given among younger customer groups. Therefore, for the indirect forms of delivery (click & collect, drive-in), mainly stores or warehouses should be selected as locations that can be combined with customers' everyday errands or trips. The pick-up station is therefore better suited to creating a well-located pick-up point for customers, as it is not necessary to use the existing branch or warehouse network here.

Limitations and future research

This paper surveyed an existing grocery customer group, which is familiar with the current processes, framework conditions and services. To shed light on the requirements of other customer groups, further research is required in which, for example, the requirements of new customers or inactive customers are surveyed. In further research on the last mile of frozen goods, the ecological assessment of delivery options could also be analyzed. Especially in terms of sustainability, it would be an added value for research to investigate which delivery alternative is the most sustainable (Wellbrock et al. 2021).

The distribution and shipping of frozen goods in the food industry is particularly challenging due to the need for constant compliance with the frozen chain compared to deliveries of dry goods, and therefore requires solutions that ensure the continuous temperature control of the food.

The consumers surveyed showed a clear preference for the direct, personal delivery service, where delivery is carried out by a retailer's or manufacturer's own company employees. Nevertheless, there is also potential for optimization in this area with regard to environmental sustainability.

Indirect delivery alternatives through pick-up stations, which entails reduced personnel requirements compared to direct delivery and can be used 24 hours a day, thus offers the highest potential for grocery retailers. It remains to be seen whether the pick-up station delivery service is used by customers in practice.

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Appendix 1

This table shows the trends and their impact on the last mile:

Trend	**Description**
Urbanization	This trend describes the population increase in urban areas that can be observed worldwide. At the same time, the population density in rural areas is decreasing. This creates new challenges that have to be met in both rural and urban areas. Due to the increasing use of Internet commerce, the volume of parcels in logistics is growing. In order to ensure an efficient urban delivery service, logistics service providers are trying to use areas in urban areas as distribution points. This can reduce the distance of the last mile. However, urban

	settlement is difficult because it is rejected by local residents (Witten et al., 2019).
Demographic change	In Austria, the proportion of older people in the population is increasing, while the number of younger people is decreasing. This development is the result of increasing life expectancy and the low birth rate. Nevertheless, an increase in the population can be recorded due to rising immigration. This demographic change is also visible in other highly developed countries. The result is a workforce deficit that extends across all sectors and fields of work. Since logistics has a poor reputation, which is partly due to the comparatively challenging employment conditions in the sector, it will be particularly difficult to recruit new employees in the future. In the future, it will be necessary to support employees in the logistics industry with digitization measures in order to increase the attractiveness of the industry. Seemingly simple solutions such as dynamic route planning, which can react immediately to traffic obstructions, could relieve employees on the last mile (Witten et al., 2019).
Individualization	Customers are developing higher expectations with regard to individualized products and services. In addition to goods that are manufactured according to special customer wishes, consumers expect options for co-designing the logistics services offered. There is a desire to help determine both the time and the location of delivery. Delivery at off-peak times, i.e. in the evening and at weekends, seems to be particularly popular with consumers. Short-notice deliveries, which are made available on the same day as the order, are also in demand among customers. However, deliveries at off-peak times and same-day delivery services result in additional costs for logistics service providers (Witten et al., 2019).
Technology	Advances in information technology are driving digitization, which enables the networking of physical logistics and information logistics. This results in logistics solutions that improve the service for consumers, such as real-time tracking or the rerouting of packages at short notice. In addition, digitalization implies progress in the development of automated systems and means of transport. In logistics, autonomous systems such as delivery robots or drones can be used. The collection of large amounts of data, which can be processed with artificial intelligence, enables the creation of forecasts that predict future maintenance of machines and vehicles and thus reduce their failure rate. With the help of artificial intelligence, consumer preferences of end customers can be predicted so that logistics processes can be controlled more efficiently. In addition, digitization is opening up a new market for innovative logistics solutions to counteract challenges in the last mile. Some companies have already developed concepts in the past that are intended to increase the delivery rate on the last mile. For example, smart door openers are offered for the home or deliveries at the workplace, which do not require the presence of the customer for the delivery (Witten et al, 2019).

Online boom of the food trade	Online retail saw a significant increase in sales due to the Covid19 pandemic. Online food retailing was also able to benefit from this. Sales for food and beverages increased by 38% in 2020 compared to the previous year. Sales are also forecast to increase in the near future, albeit not to this extent. Since the Covid pandemic, more and more food is being ordered online. This change in purchasing behavior is mainly due to the customer's intention to reduce contact and the introduction of hygiene regulations in retail, which made shopping in stationary retail less attractive from the consumer's point of view. Nevertheless, 22% of Austrian respondents who intend to continue shopping online in the future are willing to make grocery purchases online according to the pandemic (https://de.statista.com/statistik/daten/studie/1105195/umfrage/umsatzveraenderung-im-e-commerce-markt-fuer-nahrungsmittel-und-getraenke-in-oester-reich/ [Stand: 10.04.2022]).

THE EFFECT OF COMMUNICATION FRAMING ON SUSTAINABLE LAST MILE DELIVERY

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Keywords

Last mile delivery, sustainable delivery, experimental design, field experiment, sustainable supply chain; sustainable communication.

Introduction

In 2021, retail e-commerce sales amounted to approximately 5.2 trillion U.S. dollars worldwide. This figure is forecast to reach about 8.1 trillion dollars by 2026, with nearly 250,000 billion units of parcels that will be distributed worldwide by 2027 (Statista, 2022). Accordingly, the number of delivery vehicles in the top 100 cities globally will increase by 36% until 2030. Consequently, emissions from delivery traffic will increase by 32% and congestion will rise by over 21% (World Economic Forum, 2020). Thus, rethinking the supply chain and last mile delivery in a strategic way becomes fundamental, as it could lower CO_2 emissions between 17% and 26% by 2025. Companies have already started to adopt greener solutions in last mile delivery, which span from introducing no-rush shipping, pushing consumers to consolidate their orders, or incentivizing the use of parcel lockers and pic up points. Although many companies are putting effort in rethinking supply chain last mile delivery in a more sustainable fashion, consumers still lack a clear comprehension of the environmental impact of their delivery choices (Thomas et al., 2022; Kader et al., 2023). Thus, the last mile ecosystem must make consumers more aware of the environmental impact of their delivery choices. Literature in this field is at a moot point (Ignat and Chankov, 2020), so this paper aims to fill this gap by providing practical guidance to managers on how to increase sustainable last mile delivery consumption. Companies can nudge sustainable last mile delivery consumption through communication. A recent study by Thomas et al. (2022) shows that by disclosing the CO_2 emissions associated with each type of delivery method, retailers nudge consumers to make more informed decisions

(Thaler and Sunstein, 2008). However, emissions data need to be reported to consumers in an understandable way (Thomas et al., 2022). We assume that companies can increase consumer's awareness toward sustainable last mile delivery adoption nudging pro-environmental behaviours by managing the communication framing and the information prominence related to last mile delivery options. Accordingly, based on a recent work from Acuti et al. (2023), we assume that the use of metaphors (i.e., figures of speech involving a comparison between two objects; Lee et al., 2019) to explain the environmental impact of last mile delivery option can increase the consumer awareness toward environmental issues, compared to numerical information. Thus, metaphors nudge pro-environmental choices because they facilitate the processing fluency of the information related to environmental impacts of services. Similarly, increasing the prominence of the information related to delivery can enhance the effect of communication framing on sustainable last mile delivery adoption. As the prominence refers to the noticeability of the information (Miyazaki et al., 2000), we assume that managers can increase the salience of the information related to delivery by displaying them at the beginning of the purchase phase, compared to the end of the purchase phase as usually done (Jiang and Punj, 2010). To sum up, this paper wants to address the following research question: how can retailers effectively use metaphors and information prominence in communicating the environmental impact of last-mile delivery options to nudge consumers towards sustainable choices?

Purpose

Based on the practical relevance of this topic and the research gap outlined, the current research project aims at identifying the best way to inform consumers about the environmental impact of their last mile delivery choices to nudge more sustainable behaviours. To this scope, we show that the use of metaphor facilitates the adoption of sustainable last mile choices via an increased information processing fluency. We also show that this process is enhanced when the choice of the type of last mile delivery appears at the beginning of the purchase phase (higher prominence of the information).

Conceptual framework

The effect of communication framing on sustainable last mile delivery consumption

Metaphors are figures of speech involving a comparison between two objects (Lee et al., 2019) that "transfers the features of one object to the other" (Septianto et al., 2022, p. 952). Metaphors communicate a similarity between something that is well known or concretely known and something that is less understandable or fuzzier (Bremer and Lee, 1997). The point of utilising metaphors is to employ elements that the individual knows and can therefore easily represent. This approach facilitates the understanding of things that are complex and difficult to represent mentally because they are too small, or too large for the individual knowledge (Santana et al., 2020). The environmental impact is often expressed by kilograms of CO_2, but it is difficult to understand the real magnitude and its implications for the environment (Larson, 2011). For this reason, we assume that by clarifying the implications of CO_2 emissions on environment through metaphors, users can increase their consciousness in their choices related to last mile delivery.

H1. Communication framing based on metaphors has a positive impact on sustainable last mile delivery consumption. Specifically, the use of metaphors (compared to numbers) increases consumer preference for sustainable last mile delivery.

The mediating role of processing fluency

We claim that the consumer prefers to read information regarding the environmental impact of last mile delivery options that is presented in a metaphorical way. We propose that this effect can be explained in terms of the processing fluency of information. Processing fluency

represents the subjective experience of the ease or difficulty of processing information (Mauri et al., 2021). Processing fluency may be affected by the communication framing (Sarkar et al., 2022). In the context of sustainable delivery, we expect processing fluency to explain the positive effect of metaphors on sustainable delivery consumption. As metaphors make abstract concepts more concrete and comprehensible (Dehay and Landwehr, 2019), they facilitate processing (Cian et al., 2015). Accordingly, when consumers have to decide the way their orders need to be delivered, the use of metaphorical information in the message facilitates the processing of the information itself, thereby fostering sustainable delivery option. Formally, we predict the following:

H2. The impact of communication framing on sustainable last mile delivery consumption is mediated by processing fluency.

The moderating role of the information prominence

Information prominence refers to the level of noticeability of the information (Jiang and Punj, 2010). Literature on information prominence shows that prominent attributes are more important in consumer choice (Tversky et al., 1988). Marketers can alter the prominence of an attribute (Hutchinson and Alba 1991). In the context of last mile delivery, the information about delivery is often selected at the end of the purchase phase (lower prominence). Marketers can increase the prominence of this information by displaying it at the beginning of the purchase phase, as consumers often involuntarily pay more attention to first shown information (Bettman et al., 1998). Since involuntary attention to prominent information can occur prior to cognitive deliberation, consumers are likely to use it to screen alternatives (Jiang and Punj, 2010). Hence, they are more likely to pay more attention on alternatives featuring the salient attribute (i.e., last mile delivery options). Thus, we predict the following:

H3. The prominence of the information moderates the effect of the use of metaphors on processing fluency. Specifically, when a consumer reads metaphors, prominent information increases processing fluency of the information which enhances sustainable last mile delivery consumption.

Methodology

To test our theoretical model, we will test the effect of communication framing (metaphors vs. numerical information) on last mile delivery consumption. Participants in Study 1 will be recruited on Prolific and invited to participate in a survey developed on Qualtrics. After an introductory section, participants will display a mock-up webpage mimicking an online purchase of a basic sweatshirt (as in Thomas et al., 2022) embedded in the Qualtrics webpage. Participants will be instructed that they have to buy a sweatshirt and choose an option for the last mile delivery. Depending on the experimental condition, the communication about delivery and its environmental impact will be framed in different way: for the use of metaphors the information is displayed as follows: "This delivery option saves 15 balloons of CO_2 emissions", whilst for the numerical information condition the information is displayed as follows: "This delivery option saves 0.42 kg of CO_2 emissions". Regardless of the communication framing used, the participant can choose a last mile delivery based on parcel lockers (i.e., sustainable delivery) or at home delivery (i.e., non-sustainable delivery). After engaging with the choice task of last mile delivery choice, participants will be administered a set of scales to measure the key constructs for this research, namely processing fluency (Graf et al., 2018), and consumers' future intentions (Inman and Nikolova, 2017). Relevant shopping factors like product characteristics, price, lead-time, brand, and ordering platform will be consistent across all treatment conditions and they will function as a control mechanism. In Study 2 we will develop a 2 (communication framing: metaphors vs. non-metaphors) × 2 (information prominence: high prominence vs. low prominence) between-subject experimental design. Participants in Study 2

will be recruited on Prolific and invited to participate in a survey developed on Qualtrics following the same structure outlined in Study 1. Study 2 is aimed to extend findings from Study 1 by testing the boundary condition of information prominence. The field study in Study 3 will feature an online clothing store. For this experiment, we will manipulate the prominence of the information about the options of last mile delivery. Specifically, under each condition, the customers will be displayed by the formula used both in Study 1 and Study 2 for the communication framing based on metaphors. The customers will be randomly assigned to the two conditions when entering the website for a one-week period. Our focus will be the proportion of customers who will choose the sustainable delivery across conditions, measured individually as a yes/no binary variable. We will also collect data about purchase spending and conversion rates (i.e., the percentage of visitors who completed the transaction out of the total number of visitors) across conditions to control for possible spillover effects.

Findings

The hypothesized theoretical model will be analysed by means of the PROCESS macro for SPSS (Model 7, see Hayes, 2018). We expect to find a positive effect of the use of metaphors on the adoption of sustainable last mile delivery, with the information prominence moderating this effect, so that metaphors affect sustainable last mile delivery adoption only when the choice is performed at the beginning of the purchase phase.

Contributions

This research contributes to the literature on last mile delivery focusing on communication framing, processing fluency and information prominence to increase consumer awareness toward sustainable last mile delivery practices and nudge sustainable behaviours. To the best of our knowledge, this research is one of the first ones that focuses on the use of metaphors to encourage sustainable last mile delivery consumption. The use of metaphors has been studied extensively in the context of advertising (see Septianto et al., 2022), but no studies have tested its potential with respect to encouraging sustainable last mile delivery consumptions compared to numerical information. Moreover, the present study advances our knowledge concerning processing fluency, showing the key role of this factor in explaining sustainable behaviour (Acuti et al., 2023). Finally, this study clarifies the role of information prominence in nudging sustainable last mile delivery consumption (Thomas et al., 2022).

Practical implications

This research offers relevant practical contributions to managers to enhance their effort in sustainable last mile delivery adoption increasing the consumer consumption. This provides a novel approach to demand shaping that may ultimately nudge consumers to select greener last mile shipments, and help companies minimize emissions from transportation. This research explains to managers how they should present information about last mile delivery to consumers in terms of communication framing and prominence. Particularly, this research incentivises the use of metaphors to facilitate the understanding of environmental implications of consumers' last mile delivery choices. Moreover, this research suggests the companies to display information about delivery at the beginning of the purchase phase, attributing to this choice more prominence.

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Keywords

Last mile delivery, sustainable delivery, experimental design, field experiment, sustainable supply chain; sustainable communication.

SHARING-BASED INCENTIVES TO ENCOURAGE PACKAGE-FREE PURCHASES IN GROCERY RETAILING

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Keywords

Package-free products, grocery retailing, equity theory, sharing-based incentives, experiment

Introduction

The purchase of package-free products has become a pathway towards a more sustainable mode of consumption in grocery retailing (Fuentes et al., 2019). Consumers perceive the non-sustainability of packages and are more conscious of the need to reduce their use (Lindh, Olsson, & Williams, 2016). According to the 2020 PwC Global Consumer Insights Survey, 45% of consumers said they avoid the use of plastic whenever possible (PwC, 2020). Indeed, the retailing industry is witnessing the rise of new businesses oriented towards zero packaging (Verdon, 2021). Therefore, the consumption of package-free products is part of an increasingly relevant pro-environmental behavioural change in grocery retailing.

Purpose

Achieving behavioural change towards sustainable consumption faces numerous challenges. In the case of the consumption of package-free products, its adoption involves rethinking the way of shopping, and establishing new shopping habits (Fuentes et al. 2019). Indeed, food

packages serve a number of important functions for consumers (Krishna, Cian & Aydınoglu 2017). To enhance our understanding of how to encourage the purchase of package-free products, this work investigates a novel promotional tool: the use of sharing-based incentives where any monetary savings deriving from the sustainable option will be shared with the consumer. Despite the extant literature on package-free promotion in retailing (e.g. Szocs, Williamson & Mills, 2022), the use of sharing-based incentives has not been investigated yet. While there is evidence of its effectiveness in other industries like tourism (Dolnicar, Cvelbar & Grün 2019), its application in grocery retailing is still at its infancy.

To address this research gap, we posit the following research questions:

1. Do package-free products promoted via sharing-based (vs NO sharing-based) incentives increase (i) product sales, (ii) retailer image, (iii) consumer post-purchase satisfaction?

2. How consumer's regulatory focus and product type (hedonic vs utilitarian) moderate these effects?

Conceptual framework

Package-free grocery products

Packaging plays a key role in triggering a wide range of consumer responses. The color, material or the packaging design affect product attention, perceived product value or the likelihood of product purchase (Krishna et al. 2017). However, in recent years, retailers tend to offer package-free products (Louis et al. 2021; Vadakkepatt et al. 2021), as consumers are more concerned about environmental issues. Beyond environmental benefits, not using packaging can lead to better results in terms of perceived product value, such as increased sensory experience or higher awareness of its hedonic benefits as the product can be touched (Madzharov, 2019). For instance, free-packaging is associated with consumers' perceptions of the product as natural or fresh, which eventually results in higher sales (Szocs et al. 2022).

In order to increase sales of package-free products, retailers can benefit from a range of promotional tools. Previous studies suggest that in-store displays may increase the visual salience of the displayed product and therefore sales, since they attract consumer attention (Clement, Aastrup & Forsberg, 2015; Garrido-Morgado et al. 2021).

Sharing-based incentives

The use of sharing-based incentives consists of encouraging consumer pro-environmental choices by emphasizing that any monetary savings deriving from this choice will be shared with the consumer. Sharing-based incentives seem to be effective to leverage pro-environmental behaviour (Dolnicar et al. 2019). This phenomenon can be explained by equity theory (Adams and Freedman 1976), which argues that a fair relationship between input and output is the main driver of behavior. This practice emphasizes the balance of giving and taking: the consumer helps the company to save money and the company, in turn, shares these cost savings with them. Despite the relevance of this type of incentive for the adoption of pro-environmental choices, we find no previous studies in the context of grocery retailing. Therefore, we propose that in-store displays promoting sharing-based incentives (vs NO sharing based incentives) will have a positive effect on (i) product sales of package-free products, (ii) perceive store image, and (iii) consumer post-purchase satisfaction.

Consumer regulatory focus

Beyond in-store commercial stimuli (external factors), consumers' personality, motivation and concerns are internal factors that affect purchase decisions (Martinelli & De Canio, 2021; Suher & Hoyer, 2020). This paper investigates how consumers' regulatory focus may have an impact on the effectiveness of the sharing-based incentives. Previous studies suggest that consumers' regulatory focus can affect shopping values or word of mouth (Arnold & Reynolds 2009). We propose that greater consumer promotion focus (i.e. making decisions based on what is considered ideal) will make them more receptive to messages that highlight the benefits of contributing to a greener supply chain (NO sharing-based incentives). On the contrary, a higher prevention focus (i.e. making decisions based on what the consumer should do) may increase the effectiveness of the sharing-based incentive.

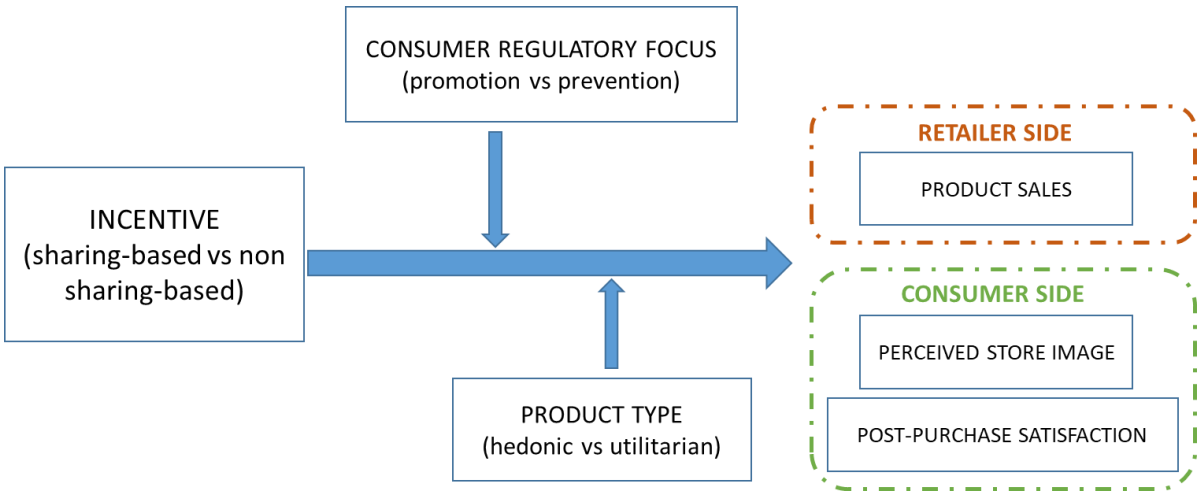
Product type: hedonic vs utilitarian

Product type is well-established as a factor that affects the effectiveness of commercial incentives in retailing. This paper embraces a classification of product type according to the consumer's motivation to purchase them, i.e. hedonic vs utilitarian (Yim et al. 2014). Particularly, the type of product (hedonic vs utilitarian) seem to affect the influence of in-store displays on product sales (Garrido-Morgado et al. 2021). Building on this research stream, this study digs deeper into how product type may affect the relationship between sharing-based incentives and package-free product sales. Previous studies indicate that having no packaging favors the sensory experience and the valuation of the hedonic qualities of the product (Madzharov, 2019). Thus, we portray that NO sharing-based incentives may work better for products of a hedonic nature -whose motivation is more holistic-, based on environmental rather than economic or functional benefits while sharing-based incentives may work better for utilitarian products as they highlight a rational justification for purchase (Chandon et al. 2000).

Methodology

A set of experiments are designed to investigate the proposed model (Figure 1). Study 1 investigates the effect of sharing-based incentives on the three outcome variables. Study 2 analyses the moderating effect of consumer regulatory focus and product type.

Figure 1. Conceptual model



Study 1

The authors collaborated with a grocery retailer to conduct a field experiment in-store. To test the main effect, the product display was manipulated to include a sharing-based incentive (condition 1) or a NO sharing-based incentive (condition 2). A control group with no display, i.e. just the product description and price as commonly found in grocery stores, was also considered in the experiment.

For the presence of sharing-based incentive, the following message is shown on the product display:

> "*Free-packaging saves us 0.10 per 100g of X product. By buying package-free you will receive 0.05 per 100g of direct discount*".

The message for the absence of sharing-based incentives reads as follows:

> *"Free-packaging is environmental-friendly. By buying package-free you will contribute to a greener supply chain".*

Sales were measured by retrieving scanner data for the period that the experimental setting was in place. A post-purchase survey collected consumer attitudes and perceptions (i.e. consumer perceived store image and post-purchase satisfaction) using the scales by Konuk (2018) and Louis et al. (2021). The survey also measured purchase impulsiveness (Shuer & Hoyer, 2020), environmental concern (Martinelli & De Canio, 2021), as well as other sociodemographic variables such as age, family size, education, occupation or income. These variables are treated as covariates given its potential influence in consumers' decisions (Ngobo, 2011).

Study 2

Study 2 analyses the moderating effect of consumer regulatory focus and product type on the main relationship. We replicated the experiment in two product categories. First, we used chocolate-coated raisins as a hedonic option as they are purchased for pleasure, more caloric and able to arouse a high olfactory sensory experience. Second, we used pulses as a utilitarian option as they are purchased for functional reasons, they are considered healthy and do not arouse high sensory stimuli. A pre-test to confirms the perception of the two products as intended (chocolate-coated raisins as hedonic and pulses as utilitarian). Thus, the experiment follows a 2 (sharing-based incentives vs NO) x 2 (hedonic vs utilitarian products) between-subjects experiment.

A survey is distributed to those consumers who buy any of the two products in order to measure their regulatory focus. We used the scale proposed by Tran et al. 2020 and Semin et al. 2005. Similar to Study 1, we collected data about impulsiveness, environmental concern, and sociodemographic variables.

Expected findings

The study aims to contribute to the literature on free packaging in grocery retailing, particularly by showing a novel promotional tool: the use of sharing-based incentives. We expect to find a significant effect of the use of sharing-based incentives on product sales. More importantly, we examine two boundary conditions for this effect: the consumer

regulatory focus (promotion vs prevention) and the product type (hedonic vs utilitarian). These findings contribute to the body of research on package-free products (Louis et al. 2021; Vadakkepatt et al. 2021).

Contributions

We offer new insights on the promotion of package-free products in grocery retailing. Our study advances our understanding of the use of sharing-based incentives and how they can be effective for reshaping shopping habits towards the adoption of package-free products. By doing so, we put forward a promotional tool that is oriented to contribute to sustainability goals by reducing plastic waste in suppliers, logistics and households.

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Keywords

Package-free products, grocery retailing, equity theory, sharing-based incentives, experiment

MANAGING TRUST IN THE ONLINE CUSTOMER JOURNEY: EVIDENCE FROM AN EMERGING MARKET

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Keywords

Trust, online shopping, technology acceptance, cross-market, purchase intention

Introduction

In recent years and especially due to the crisis dominated societal challenges such as the pandemic, an increase in online shopping is observable leading to the growing importance of online distribution channels for firms in a variety of industries and markets. Facilitating this development, information and communication technologies played a crucial role making digital channels and e – commerce indispensable. While the demand for digitalized distribution channels within the retail sector increased, online retailers are more and more challenged as it is difficult for them to gain and maintain trust of online shoppers within such retail environments (Alkhalifah, 2021). As a vital factor for the success of online retailers due to its impact on customers' online shopping behaviour (Kim & Peterson, 2017), trust and managing trust in online retail environments deserves scholarly attention. Much research was conducted in the field since the last decade (Beldad et al., 2010; Friedman et al., 2000; Gefen et al., 2003; Hoffman et al., 1999; Lăzăroiu et al., 2020; Y. D. Wang & Emurian, 2005). However, most of the research examines either one side of the topic, its antecedents (Abdulrahman Al Moosa et al., 2022) or its consequences (Grosso et al., 2020), leaving the composition of both within retailing aside. Further, a lot of academic research focuses on

online trust within a service context (e.g. mobile shopping services) (Alzaidi & Agag, 2022), which is difficult to apply within retail channels. Research on online trust in emerging markets where online shopping represents a fairly new phenomenon, is as well scarce.

This is surprising as emerging markets are increasingly evolving, making them an interesting market research field with practical implications for firms from developed countries. Moreover, trust as an affective attitude is subject to differing contextual variables which includes characteristics of differing markets such as emerging markets (Diallo & Siqueira Jr, 2017). The website as the interface for customers to purchase online poses issues concerning the security dimension and risk perception. These factors are assumed to differ within a customer base which is used to online shopping channels such as in developed countries in comparison to customers within an emerging market which might not foster a similar availability of online shopping channels (Wang et al., 2017), its technological advancements and customer habituation to such technologies (Ventre & Kolbe, 2020).

Therefore, taking an emerging market perspective, this research builds on the technology acceptance model (TAM) (Davis, 1989), combines it with the commitment – trust theory (Morgan & Hunt, 1994) and investigates numerous variables concerning online shopping trust in order to infer practical implications for online retailing for advanced and emerging market environments by comparing both.

Purpose

The purpose of this study is to investigate online trust, its antecedents and its consequences within online shopping environments and to provide useful practical implications on how to manage trust and its influencing factors taking a comparative view of an advanced and an emerging market into consideration. This research draws attention to online trust in relation to purchasing online and it investigates trust factors which are within the control of online retailers as well as those which are difficult to control. It therefore expands the view of online trust within online retail environments and contributes to research in the fields of retailing, online customer behaviour and retail management as well as international marketing.

Conceptual framework

The conceptual frame (see Fig. 1) of this research builds on Towers and Towers' (2022) customer journey framework and establishes retailer controlled factors of trust in online shopping along with non – retailer controlled factors of trust in online shopping based on the trust – and commitment theory (Morgan & Hunt, 1994) as well as the technology acceptance model (Davis, 1989). The research establishes that both, technological acceptance and online trust need to be addressed in order to influence customers' purchase intentions which represents the commitment to the online retailer consequently.

Retailer controlled factors of trust in online shopping

Based on research in the academic field of online trust (Bhattacherjee, 2002; Punyatoya, 2019; Singh, 2019; van Tran & Nguyen, 2022), four factors, namely experience, perceived reputation, perceived website quality and perceived security are considered as components which are within the control of retailers and therefore influencing online trust. It is therefore hypothesized: *Hypothesis 1, 2, 3 and 4.* 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.

Non – retailer controlled factors of trust in online shopping

As for the consequences of systems trust, there is consensus in scholarly literature that trust has an impact on a variety of cognitive, emotional, and behavioural outcomes (Bulsara & Vaghela, 2020). Those are usually variables which are outside the control of retailers and form thus non-retailer controlled factors of trust in online shopping such as perceived risk and purchase intention. In contrast to controllable factors, these uncontrollable components have a psychological dimension within an individual which cannot directly be influenced by the retailer through for example technological advancements. It is therefore hypothesized: *Hypothesis 5,6 and 7.* H5: Higher levels of trust lead to lower levels of perceived risk. H6: Lower levels of perceived risk lead to higher levels of purchase intention. H7: Trust in online shopping has a positive influence on purchase intention.

Retailer controlled and non-retailer controlled factors of trust in online shopping in advanced and emerging markets

Consumer behaviour in online shopping is influenced by technology, services, personal factors of the user, as well as the context of its influence on customers commitment in form of their purchase intention. In a similar vein, the overall market context influences online shopping behaviour (Chiu & Hofer, 2015; Gupta & Ramachandran, 2021), and the online purchasing process in a cross-market setting is a central area of interest in the academic field (e.g. Frasquet et al., 2017). Therefore, taking an emerging market perspective, the following hypotheses are derived: *Hypothesis H8 (a-g):* There is a significant difference in advanced versus emerging markets with respect to H8a: the influence of experience on trust in online shopping. H8b: the influence of perceived reputation on trust in online shopping. H8c: the influence of perceived website quality on trust in online shopping. H8d: the influence of perceived security on trust in online shopping. H8e: the influence of trust on perceived risk. H8f: the influence of perceived risk on purchase intention. H8g: the influence of trust on purchase intention.

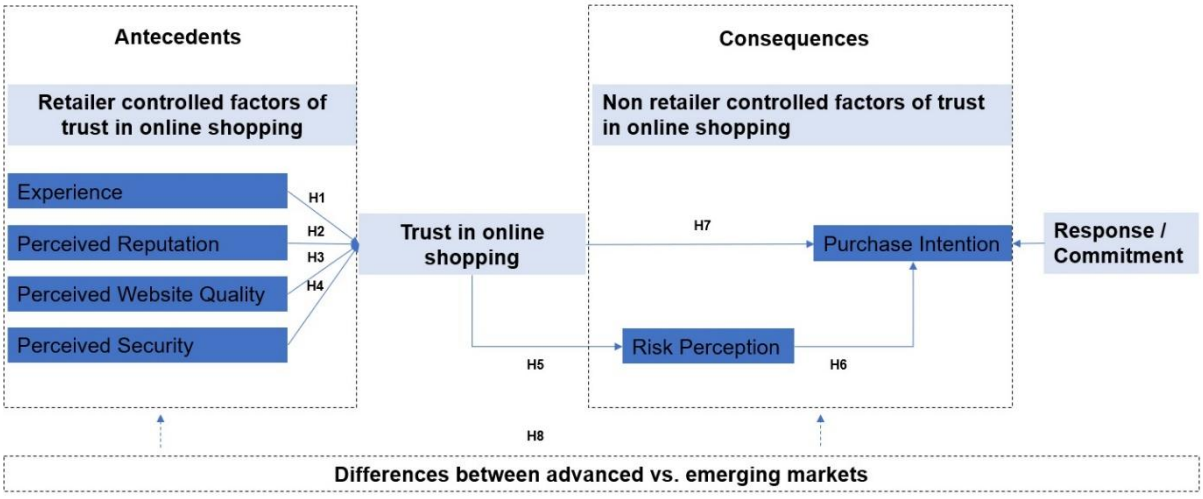

Figure 1: Conceptual frame

Methodology

Establishing a quantitative research design using web based surveys distributed within a social media channel, data were collected from 397 customers from Austria and 205 customers from Moldova. The sample targeted individuals with knowledge about online shopping, thus Baby Boomers, Generation X and Millennials were addressed. The respondents received the survey via a link with an attached message encouraging users to participate. The answers were related to the last website from which online purchases were made. To avoid common method bias (CMB), various actions were taken. First, the items were randomized, second, only established scales were used and third, the items were tested for ambiguity. Lastly the researchers guaranteed anonymity, and provided instructions for answering the questionnaire. To assess the research model, a variance based structural equation modelling approach was applied and group comparisons between the two country samples imposed.

Findings

Empirical findings display that company reputation, perceived security and perceived website quality positively influence consumer trust in online shopping. Moreover, trust in online shopping corresponds directly and positively with consumers' purchase intention. The research confirms the negative relationship between trust and perceived risk as well as perceived risk and purchase intention. Furthermore, a significant difference between Austria and Moldova according to the influence of experience and perceived website quality on trust in online shopping was observed which was not reported in any research before.

Contributions

The research fills important research gaps concerning trust in online shopping within the context of the customer journey and within emerging markets. It contributes theoretically and practically to academic research and reveals the importance for online - retailers to build and maintain customer trust and to reduce perceived risk within advanced and emerging markets in order to stimulate online purchase intentions. Contrary to existing research, this study investigates online trust in relation with specific control- and incontrollable factors within the context of online retailing and comparing views of advanced and emerging markets.

Practical implications

This study provides useful insights to increase consumers' intention towards online shopping, which can be incorporated into website planning and marketing strategies. 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. The findings indicate further the crucial role of website quality concerning trust. Retailers are advised to 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 behaviour. For customer experience, retail managers should take a differentiated view, as it varies significantly between markets. Furthermore, while in advanced markets the quality of the website plays a minor role, offering high website quality and supporting services are an important tool to enhance online trust with consumers from emerging markets.

Research limitations and outlook

As in every research this study entails a couple of limitations, which suggest future research opportunities. One limitation concerns the research setting, specifically the cross-sectional research design. Another limitation refers to the sample sizes which are rather small and dominated by younger age groups. Within the Moldavian sample there are more female consumers representing a bias for the group comparison of the two samples. Hence, future research should consider a longitudinal research design with a larger sample size and nearly equal gender distributions.

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Keywords

Trust, online shopping, technology acceptance, cross-market, purchase intention

CONSUMERS' PRICE SENSITIVITY (CPS) DURING TIMES OF A FINANCIAL-HARDSHIP EVENT: A CRITICAL LITERATURE REVIEW

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Keywords
Price sensitivity, coping behaviour, shopper behaviour, retail marketing, financial hardship,

Introduction
Despite the apparent connection between consumers' price sensitivity (CPS) and financial hardship events, studies exploring this connection are limited, particularly around resultant shopping behaviour. Reasons for this could be the widespread belief that consumers will no doubt cope negatively (e.g., favouring cheaper brands or switching to lower-quality products) when facing financial hardship or scarcity (Allenby & Lenk, 1995; Srivastava & Gupta, 2022). Hence, the connection seemingly lacks originality or novelty to warrant further investigation. Beyond financial-hardship events, there are many studies on CPS in the consumption context of utilitarian products (e.g. groceries) (Graciola *et al.*, 2018). The CPS's popularity in this consumption context is understandable and expected, considering people frequently use prices as a proxy indicator of perceived quality and risk to inform their purchase decision (Wakefield & Inman, 2003).

Purpose

Today's retailers operate in a highly competitive environment. The competitive threat can significantly escalate during a financial-hardship event (Yun & Hanson, 2020), but the source does not originate immediately from other retailers. It is instead from consumers who become acutely price sensitive and, in turn, change their shopping habits and adjust spending to protect (or reserve) their financial resources and desired lifestyles (Goswami & Chouhan, 2021). These behaviours are theorised as protection motivation (Floyd *et al.*, 2000).

Given the limited attention on CPS and financial hardship events, the present study seeks to contribute to the literature by *i) challenging the mentioned belief about CPS and financial hardship and ii) exploring the extent to which CPS unquestionably results in consumers' negative shopping behaviours during times of financial hardship*. The protection motivation theory guides the exploration and prompts the researchers to consider the effects of CPS on related shopper behaviour via the lens of threat and coping appraisals.

Methodology

Our research design consisted of two parts: a critical review of relevant CPS studies published in the consumer behaviour literature; and a multi-temporal assessment of consumers' shopping behaviours during times of the event under study. For the reader's interest, we briefly describe the multi-temporal assessment here, a technique that is widely used to study changing behavioural patterns (Kong *et al.*, 2010). It involved the research team administering an online questionnaire to two consumer groups (n1=213 and n2=486) in the early and late temporal stages of the persistent and atypical financial hardship event of COVID-19. The survey comprised a set of ten operational items that measured four theoretical factors of interest. These were CPS (Wakefield & Inman, 2003), product-quality, preferred-store, and store-brand (own-label) choices (Hampson & McGoldrick, 2013; Sit *et al.*, 2022). CPS served as the surrogate measure of consumers' threat appraisal and the choice factors as the surrogate measure of their coping appraisal. The early and late temporal stages signified the opposite behavioural transitions where, for example, consumers migrated from resistance to acceptance of the event as the 'new normal' and became accustomed to new shopping behaviours (e.g., social distancing, wearing face masks in-store) (Standish & Bossi, 2020). We performed descriptive, exploratory factor and regression analyses on the survey data.

Findings

Our critical literature review identifies three unique findings about CPS. Together they illuminate the need for more research into CPS and shopper behaviours during times of a persistent and atypical financial-hardship event. First, CPS is more widely studied in the consumption context of *utilitarian products* than financial-hardship events. Examples include *groceries* (Allenby & Lenk, 1995), *eco-friendly goods* (e.g. shampoo) (Srivastava & Gupta, 2022; Wu *et al.*, 2017) (Srivastava & Gupta 2022; Wu *et al.*, 2017), *consumer electronics* (e.g. coffee maker) (Lee *et al.*, 2020), *holiday accommodation* (Liang et al., 2018; Stangl et al., 2020) and *insurance service* (Dominique-Ferreira *et al.*, 2016). The popular connection of CPS with utilitarian products is understandable and expected because consumers frequently use prices as a proxy indicator to inform their purchase decisions (Gómez *et al.*, 2018; Valle *et al.*, 2017). However, the lack of focus on CPS and financial-hardship events is somewhat surprising, considering consumers have been reported to cope negatively when facing financial difficulty (Hampson & McGoldrick, 2013). The negative coping behaviours can include panic buying (Laato *et al.*, 2020), hoarding (Kirk & Rifkin, 2020), stockpiling (Chen *et al.*, 2020), and switching to cheaper and lower-quality alternatives (Sit *et al.*, 2022). Only a

handful of studies considering both CPS and financial hardship events have focused mainly on economic crises, where the financial adversity to consumers is immediate and predictable (Hampson & McGoldrick, 2013). Those studies have however not considered atypical financial-hardship events where financial adversity arises as a result of other adverse consequences (e.g. coronavirus) (Li & Zhao, 2021).

Second, CPS's conceptual definition is highly consistent between studies. It refers to consumers' reactions to price changes in a product (Wakefield & Inman, 2003; Yue *et al.*, 2020). Its *operational definition* is however idiosyncratic, where different studies have used different numbers of items and different wording for the measurement of CPS. For example, Sang et al. (2020) measured CPS with a direct approach, focusing mainly on three price levels (maximum, minimum and fair) consumers were willing to pay. Liang *et al.* (2018) measured CPS with two scenario-related items, namely, "I am more willing to purchase [___] if it is cheaper than a hotel room," and "the price/cost of purchasing an [___] place is important to me." Graciola *et al.* (2018) surveyed CPS with five scenario-related items but with wording different from Liang et al. (2018). These items include "I buy as much as possible sale/discounted prices," "supermarkets with the lowest prices are usually my choice," "I am willing to put in extra effort to find lower prices," "I usually go and check the products and their prices in several supermarkets before buying," and "price is more important than the supermarket brand." Putting the varied number of items and varied wording aside, the mentioned studies seem to have applied CPS as a surrogate measure of consumers' threat appraisal of a situation. thus, is, a threat has been perceived, increased prices are imminent and thus consumers are likely to expend effort and time to search for and secure lower prices.

Third, previous studies have typically measured CPS with *single-temporal assessment.* They have collected consumer data focusing on one instead of multiple time points. A single-temporal research design is effective when a researcher seeks to study the explanatory utility of CPS without concerning themselves with its temporal development. This research design has however two shortcomings, where it assumes i) CPS is a static instead of a variable concept and ii) the effect of CPS on shopper behaviour is existent and can be measured instantly. In a persistent and atypical financial-hardship event like COVID-19 (Eger *et al.*, 2021), CPS may fluctuate as consumers become more accustomed to the event and as the adverse financial outcomes of the event unfold gradually rather than instantly.

Drawing on these notions, a couple of questions about CPS are worth considering and their answers can expand our knowledge of the concept in question. That is, *will CPS become more or less acute, and will its effect on consumers' shopping behaviour become stronger or weaker during times of a persistent and atypical financial-hardship event?* To answer these questions, a multi-temporal research design is required to consider the varied time periods of the event under study and the consumers' shopping behaviours, together with CPS, that occur in each period. Some scholars indeed call for more multi-temporal studies on CPS. For instance, Yun and Hanson (2020) recommend "additional studies should be performed that are capable of accounting for potential time trends in the (CPS) data" (p. 5). Specific to the financial-hardship event of interest to the present study, Goswami and Chouhan (2021) commented "while it is critical for retailers to think about the monetary necessities to survive in this market (the pandemic), it is likewise similarly essential to forecast how shopper behaviour changes during and after the pandemic" (p. 10263).

Originality

We take the first step to consider CPS during times of a persistent and atypical financial-hardship event. Specifically, we seek to explore the threat- and coping-appraisal utilities of CPS, which are inspired by the protection motivation theory. Our critical literature review supports this exploration where we have learnt that previous studies have focused CPS more on utilitarian consumable products and less on financial-hardship events, have measured CPS with inconsistent numbers of items and wording, and have mainly favoured single-temporal assessment. Addressing these issues (knowledge gaps) will help us to better understand whether CPS yields predictable or unpredictable threat- and coping-appraisal utilities in persistent and atypical financial-hardship events compared with non-persistent and typical financial-hardship events (e.g. the cost of living crisis), and whether the appraisal utilities are consistent or inconsistent between the different time periods of the event.

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Multi-/Omni-channel marketing and operations

THE ROLE OF INFLUENCER MARKETING IN OMNICHANNEL CUSTOMER JOURNEYS

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Introduction

Influencer marketing is an effective way to promote firm offerings to consumers today (Leung et al., 2022). Companies spending on influencer marketing has been estimated at US $21.1 billion in 2023 and campaign spending on influencer marketing is increasing (Influencer Marketing Hub, 2023). Brands and retailers using influencer marketing can achieve large revenues whilst influencers offer brands visibility and compliment brand messages (Syrdal et al., 2023). Influencer marketing attracts large audiences through platforms such as Facebook, Instagram, TikTok, Weibo and YouTube.

Influencer marketing can now link to purchase directly within the social media platforms (Meta, 2023). Instagram shop and Facebook shop are online shopping channels that exist within the social media platforms. This allows influencers to ask their audience to 'swipe up' which directly links the products and services that they are marketing to the shopping channel. This feature simplifies shopping journeys for customers whilst for omnichannel retailers, provides an opportunity to improve their strategies and profits by creating more seamless connections between channels. These new 'shops' blur the lines between traditional retail channels and marketing channels, which have frequently been separately viewed and managed in both research and practice (Pan et al, 2019; Rosenbloom, 2013; Kozlenkova, et al., 2015). Thus, influencer marketing can have an important role in omnichannel strategies and customer journeys today. Therefore, this research aims to understand how influencer marketing can trigger an omnichannel purchase by examining the degree to which digitally native consumers are affected by their perception of influencers, how this affects their customer journey and their perception of seamlessness.

Literature has explored how influencer marketing is successful in connecting influencers to customer consumption of products and brands through mainly researching attributes of the influencer and consumer behavioural preferences (Vrontis et al., 2020). Influencer attributes studies relate to influencer characteristics such as trustworthiness (Lou and Yuan, 2019), credibility, informative value, expertise (Ao et al., 2023), entertainment value (Barta et al., 2023) and consumer behavioural preferences such as homophily (Sokolova and Kefi, 2020), authenticity (Auderezet, De Kerviler and Moulard, 2020) and popularity

(Chung-Wha, Sngsoo and Kim, 2022). Other large areas of influencer marketing research lay in content attributes, sponsorship disclosure and managerial outcomes (Wu, Namblsan, Xiao and Xle, 2022). Some research has explored how influencers induce product and brand trial (Zhang et al., 2021) and how influencer marketing induces channel trial and cross-channel services such as click-and-collect (Neslin, 2022). Nonetheless, limited attention has been given to investigating the impact of influencer marketing on customer decision-making throughout their journeys and the seamless connections that can be established as a result.

Purpose

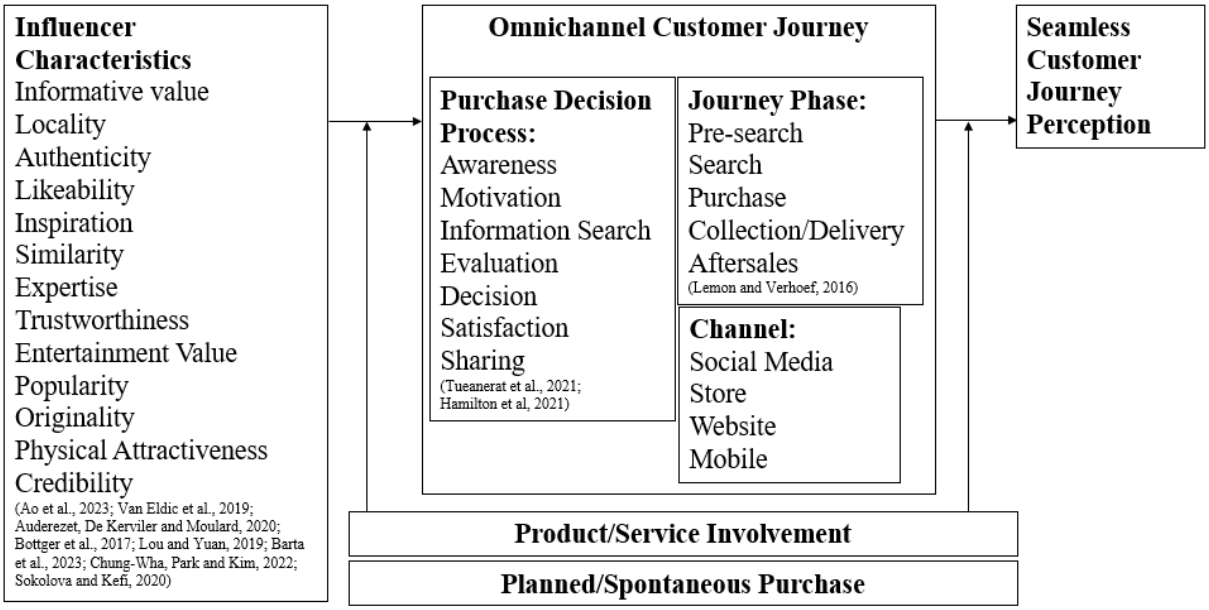
This study aims to understand how influencers can trigger an omnichannel purchase, by examining the degree to which digitally native consumers are affected by their perception of influencer characteristics and how this affects their channel choices and perception of seamlessness during their customer journey.

Conceptual framework

Given the aforementioned research gap, this study aims to answer the following research questions; 1, How are consumers influenced in their omnichannel customer journeys? 2, How do influencer characteristics affect consumer channel choices during their customer journey? And 3, How does influencer characteristics and consumer channel choices affect consumer perception of seamless omnichannel shopping experience?

To action this research, we conduct qualitative research in the form of semi-structured interviews to examine the various influencer characteristics that prompt digitally native customers to undertake omnichannel customer journeys. We assess their channel choices over the various stages of the customer journey and lastly, we examine how those choices might affect their perception of seamlessness.

Figure 1. Proposed model of Influencers and the omnichannel customer journey



This proposed model identifies influencer characteristics (RQ1), how they affect the omnichannel shopping journey (RQ2) and finally, the perception if seamlessness (RQ3). We also investigate how this model may differ depending on product involvement and whether it was a planned or spontaneous purchase.

Methodology

A qualitative analysis through semi-structured in-depth interviews was conducted with 40 interviewees. The condition to participate was that they followed influencers on social media channel/s, had purchased a product/service following their influence and be multiple channel users. The interviews explored information about the influencers that they followed in general, a description of how the influencer they followed lead them to purchase, the product/service that they purchased, how they made that purchase during the stages of the customer journey (pre-search, search, purchase, collection/delivery and aftersales) and how influencers affected their omnichannel customer journey. Lastly, we asked participants to identify their perception about seamlessness regarding the identified influencer to customer journey.

Ages of respondents ranged between 20 – 52 with a median age of 22. 75% were female and 25% male. Participants were generally students (72%; 28% were employed), heavy social media users, digital natives[1]. 87% of participants were French and 12% other nationalities. Interviews lasted on average 50 minutes.

Respondents are following multiple influencers mostly on YouTube and Instagram, however, the majority followed on more than one platform. Most respondents were influenced to buy low involvement goods such as cosmetics, sportswear and lingerie, but also high-involvement goods such as a laptop computer and car. Since influencer characteristics, journeys and products/services can depend on the number of followers, at the time of the interview, respondents were asked to identify the number of followers of the influencer that they purchased from. For the findings, influencers will be classified (eg. Micro, macro) according to the number of followers (Ouvrein, Pabian, Giles, Hudders & De Backer, 2021; Marwick, 2013; Silalahi, 2021). Interviews were transcribed and analysed using Nvivo R1.6.

Findings

Regarding (RQ)1, respondents discovered new products and services through influencers that they trust and engaged with during the initial awareness and search phases of the customer journey. Respondents valued a variety of influencer characteristics which motivated them to purchase. We found examples of the following influencer characteristics established in literature; trustworthiness, credibility, entertainment value, expertise, informative value, likeability, similarity and physical attractiveness. We also found evidence of five lesser studied characteristics identified as equally important for respondents: locality, originality, inspiration, authenticity and popularity. Influencers were valued for the information and advice that they offered (e.g. sizing of clothes). Trustworthiness generally correlated with the length of time the respondent had followed the influencer. More local and authentic perceptions of influencers were also highly valuable influencer characteristics that prompted purchase.

[1] A large amount of respondents are identified as digital natives (generation Y, born between 1981 and 1990, and generation Z, born between 1991 and 2000). They are largely represented in this study because digital natives represent the largest global population groups and largest groups of social media users (Statista, 2023; Statista, 2022, 1, 2; World Economic forum, 2021). Digital natives check Instagram on average five times a day (Djafarova et al., 2021), are more vulnerable to impulse purchases and are likely to be more engaged with social media content, which can have a significant effect on the value obtained from influencer marketing (Djafarova et al., 2021; Dahl et al., 2018).

For RQ2, respondents had similar customer journeys with regards to channels used following influencer marketing. When we were grouping customer journeys into clusters by primarily channel, we cross-analysed this with respondent data and found generational differences amongst the respondents. These clusters are outlined as follows:
1 Gen Z full omnichannelers: These generation Z customers are motivated by influencers to continue search for information on the website. They evaluate the alternatives on other websites and visit the retailer's store to finalise their search and purchase in the store channel.
2 Gen Z digital journeyers: These generation z customers are motivated by influencers to continue searching for goods online, check on the company's website and don't evaluate the purchase before buying on the website. They have delivery at home and provide a review on the website by responding to an email.
3 Gen Y showroomers: These generation Y customers are motivated by influencers to visit several channels to search, they visit the store channel to continue information gathering but go online to purchase and have delivery at home. They provide a review on the website by responding to an email.
4 Gen Y full omnichannelers: These generation Y customers are motivated by influencers and extensively search on various channels before purchasing online and have the product delivered quickly and cheaply in-store. They provide a review on the website by responding to an email.
5 Gen Z and Y digital decisive shoppers: These shoppers move decisively between digital channels and carry out quick search and purchase online. They look for convenience and could be categorised as utilitarian shoppers.
6 High involvement variable journeyers: These shoppers who are buying high involvement goods, use several channels and don't follow any usual channel patterns.
Whilst we cross analysed influencer characteristics with customer journey choices, we found no relationship.

Regarding RQ3, "swiping up" on Instagram makes the search to purchase phases of the journey seamless: "*Yes, and I think it's the reason why I bought from her. Because it's easy. You just must swipe up and after that, the navigation on the website is very easy. You just have to click.*" (Victoria, student, female, 22 years old). Links from social media to the website for purchase were also deemed "smooth" Consistency was also found in same prices and brand feel across channels, which lead to more trust in the influencer.

Contributions

This research will expand on prior research by providing additional insights into social media influencer effectiveness for businesses operating omnichannel retail strategies whilst expanding knowledge about the role of marketing touchpoints in customer journey research (Barwitz and Maas, 2018; Tueanrat, Papagiannidis and Alamanos, 2021; Martínez-López et al., 2020).

By carrying out this study we seek to make three key contributions to research on digital native customer journeys. Firstly, consumer research on the effect of influencers is evolving (Martínez-López et al., 2020) which draws the need for more updated research. The 'swipe up' Instagram shop is one such development that was launched in 2022 (Meta, 2023) and carries differences in channel connections over the customer journey. Secondly, our research expands on previous influencer and multichannel choices (Dalla Pozza et al., 2017: Wiedmann and von Mettenheim, 2020) by examining influencer marketing characteristics and their effect on the omnichannel customer journey as a whole. Whilst prior research has

focussed on credibility (Ao et al., 2023; Soklova and Kevi,2020; Martínez-López et al., 2020), we expand on this to consider the effect of multiple characteristics and extend knowledge and understanding about lesser-researched characteristics such as location and popularity.

Lastly, omnichannel research is in its infancy and the mixed success of omnichannel strategies suggests that further research is warranted (Neslin, 2022). Although much omnichannel research has focussed on physical channels (Cao and Li 2015; Mirzabeiki and Saghiri 2020 ; Neslin 2022 ; Saghiri et al. 2017 ; Verhoef et al. 2007), our research attempts to connect social media marketing channels to physical channel integration by exploring the omnichannel customer journey. Although papers have explored influencer effects on the search phase of the customer journey (Martínez-López et al., 2020), little research discusses the effect of influencer marketing on all phases and channels of the omnichannel customer journey.

Practical implications

Our recommendations suggest that consumers view influencers as an extension of the brand and that there are multiple criteria that marketers should assess when searching for influencers. However, when companies choose and partner with an influencer, consumers value authenticity and informational value to complete customer journeys. Therefore, managers should respect this by allowing the influencer certain elements of control in how they present the product/service to their followers.

The influencer marketing consumer clusters that were heavily distinguished by generation Z and Y provides managers with understanding and expectations about how consumers will complete their journeys. Influencers should provide age of followers' statistics when managing a partnership to help companies organise customer journeys effectively. For example, for a majority generation Y following who like to use the store as a showroom, they should ensure that the products that the influencer is marketing is always available in stores.

Keywords: influencers; channel goals, channel choice, omnichannel, seamless

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CAN SHOWROOMERS BE CONVERTED INTO STORE BUYERS USING ENVIRONMENTAL CLAIMS?

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ABSTRACT[1]

In most developed countries, brick-and-mortar stores are challenged to continue being relevant for omnichannel shoppers, who use physical stores as showrooms and then purchase online at a competing retailer. Showrooming provides consumer benefits but poses a threat to the profitability of physical stores and can have adverse environmental effects. Although the literature has consistently stated that showrooming is strongly motivated by price savings and risk reduction, there are other factors that the consumer takes into account.

The aim of this study is to understand how the size of the online price advantage combined with the impact of knowledge about the environmental impact of last-mile deliveries affects the potential showroomer decision whether to buy online or in-store.

Using a 2x2 experimental design and a sample of potential showroomers, this paper tests four hypotheses related to the influence of the size of the online price advantage and the moderating influence of price orientation on that relationship, and a second set related to the effect of awareness of environmental impact on the showrooming decision for different levels of online price advantage of the online retailer and moderated as well by the environmental consciousness of the individual. Our results show that a large price difference increases the probability of showrooming and that this effect is positively moderated by the individual price orientation. We also obtain that when the potential showroomer is aware of a higher CO2

[1] This is a summary of the extended abstract sent to CERR 2023 Call for Papers. Please contact marta.frasquet@uv.es is you need further detail of our research.

impact due to home delivery the probability of showrooming decreases, and this relationship is also moderated by the individual's environmental consciousness, reinforcing the negative relationship between the awareness of CO2 impact and the probability of showrooming.

Our study contributes to understand the showrooming phenomenon, which is one of the greatest challenges for retailers nowadays. This study is the first to consider how the knowledge of the environmental impact of home deliveries impacts the showroomer's decision. We also confirm the importance of online price advantage, highlighting that those impacts are moderated by the consumer's price orientation and environmental consciousness respectively. These findings have valuable practical and social implications.

Keywords*

Showrooming, Price advantage, Environmental consciousness, Price orientation, Last-mile

CONVENIENCE DRIVERS OF SALES SHARE EXPANSION IN ONLINE GROCERY RETAILING

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Keywords

Online grocery retailing, retail shopping convenience, multichannel retailing, channel adoption, intertype competition

Introduction

Grocery shopping is undergoing rapid change. Internet commerce is becoming more popular and capturing more market share among some customers but not others. Likewise, many retailers still struggle to identify the best multichannel "formula" with which to control the physical and digital channels at the same time. In this context, to qualify as the preferred channel by consumers and being consequently profitable enough for retailers, online shopping must offer tangible benefits. While consumers are shopping more frequently and at more stores, they are also more time-constrained and demand more convenience-focused and added-value services (Kannan, 2020). Also, retailers are seeking more channels that bring them into direct contact with consumers not necessarily stepping into their physical stores (Lemon and Verhoef, 2015). In such context, Online Grocery Shopping has the potential to fulfill both needs, establishing itself as a valuable service to maximize both utilities. Focusing on consumers' inclinations, shopping convenience has been proven as the main underlying motive to adopt online purchasing (Brand et al., 2020; Morganosky and Cude, 2002). As consumers allocate less time to shopping and more to other endeavors, their desire for convenience is growing, diverting them to Online Grocery Shopping as a convenient, time and effort-saving alternative (Wilson-Jeanselme and Reynolds, 2006)

Extending shopping utility maximization theory to convenience, online retailers can generate value along two dimensions of convenience: a "core" component where the net effect of costs (i.e., retail prices) and benefits (i.e., assortment breadth and depth, promotions, etc.) to consumers is expected to be positive, and an "extended" component, represented by the net (dis)utilities derived from the online shopping activity, due both to received advantages (i.e., home delivery) and disadvantages (i.e., absence of touch and feel). Where "core" convenience

refers to traditional retailing mix levers, "extended" convenience depends on category-specific characteristics. Since consumers seek to allocate their purchases to generate the highest possible convenience combination (Baltas, Argouslidis, and Skarmeas 2010; Campo and Breugelmans 2015; Chintagunta, Chu, and Cebollada 2012; Gupta and Kim 2010; Vroegrijk, Gijsbrechts, and Campo 2013), that leads us to formulate our research question:

RQ: which dimensions of convenience (core vs. extended) have a greater impact in expanding the sales share of the online grocery channel?

Purpose

The purpose of the present work is to assess and better develop the role of convenience intended as one of the major drivers of online grocery retailing adoption and long-term sustainability (Berry, Seiders, and Grewal, 2002). The category-specific approach based on real sales data enriched the analysis allowing to draw conclusions also based on specific category characteristics.

Conceptual framework

Previous research on Online Grocery Shopping indicates that a decision to shop across multiple can be explained by shopping utility maximization principles (e.g., Vroegrijk, Gijsbrechts, and Campo 2013). The basic mechanism underlying shopping utility maximization principles is that a single channel does not always provide the highest overall shopping utility for a category during each shopping trip, and that a trade-off is made between two shopping utility components: *acquisition utility*, versus *transaction utility*. Parallelly, we can project maximization principles to retail convenience as the main driver of Online Grocery Shopping adoption (Jiang et al., 2013), and to its "core" and "extended" components as in the following framework:

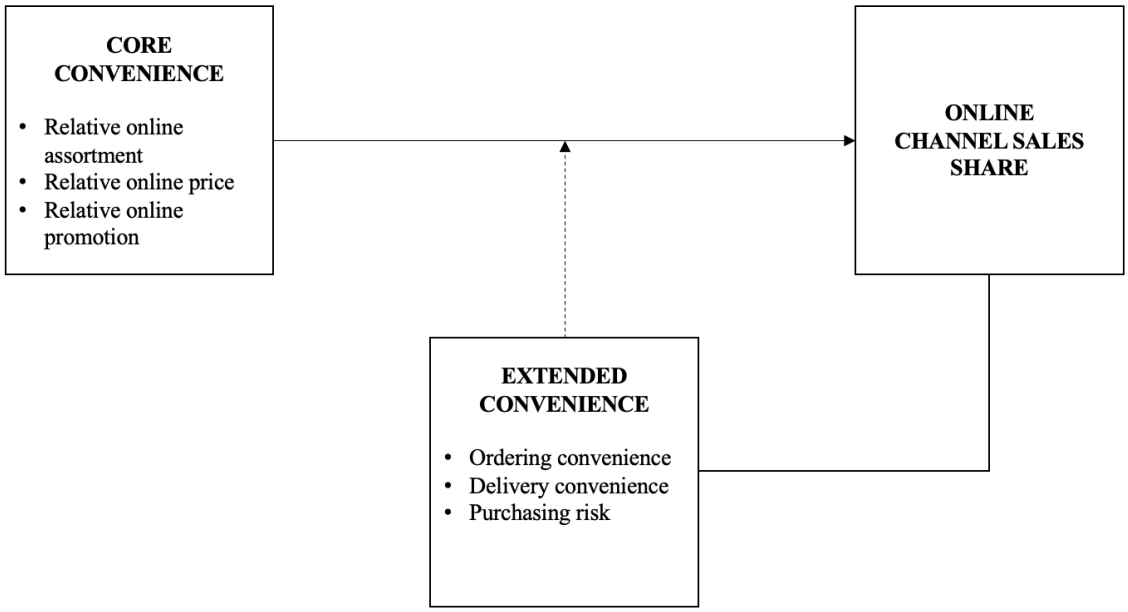

Figure 1 - Conceptual Framework

Following prior research, we use assortment-related aspects as key benefits and price-related aspects as key costs, that determine acquisition utility and parallelly "core" convenience (Campo and Breugelmans 2015; Vroegrijk, Gijsbrechts, and Campo 2013). In line with prior research, we formulate the first set of hypotheses:

H1: online sales share increases when a relative broader assortment is offered;

H2: online sales share increases when relative lower prices are charged.

Transaction utility for online purchases mainly depends on perceived online shopping convenience and purchase risk (Chintagunta, Chu, and Cebollada 2012; Gupta and Kim 2010), which vary according to category-specific characteristics. Hence, we expect that:

H3: online sales share increases for categories with greater online ordering/delivery convenience (i.e., planned categories, bulk categories);

H4: online sales share decreases for categories with greater online purchase risk (i.e., sensory touch and feel attributes, fresh categories).

Methodology

Our research setting is the Italian online grocery market, which, among all major European markets, is slightly underdeveloped but experienced a strong boost in terms of adoption. We use point-of-sales scanner data provided by Circana and collected by census, representative of the entire Italian MGD market for both physical players (including hypermarkets, supermarkets, and convenience stores), and online players (digital native and bricks-and-clicks). The observation period exceeds five complete years with 13 weekly observations per-month, from January 2017 to December 2022. The dataset, whose smallest unit of analysis is the single UPC code, articulates itself in 24,901 single observations, contained in 450 FMCG product categories both food and non-food, themselves belonging to 9 macro-aggregates, so called "sectors", namely: beverages, raw meats, home care, personal care, ambient groceries, frozen foods, fresh foods, fruit and vegetables, pet care and nutrition.

Our dependent variable is the online sales share vs. the sales share of the physical channel in view of an intertype competition. In order to highlight roles and impacts of "core" convenience and "extended" convenience, the following variables have been defined: within "core" convenience, traditional retail marketing mix levers (namely, assortment, price, and promotions) have been considered in relative average terms (ratios between offline and online); regarding "extended" convenience, a set of dummy variables have been developed to define category-specific characteristics such as sensory attributes (i.e., fresh foods) and effort attributes (i.e., bulk and heavy products) that may determine an online purchasing (dis)advantage. Variables have been operationalized and justified as follows in Table 1.

Table 1 - Variables Operationalization

VARIABLE	**DESCRIPTION**
Dependent variable	
ONLINE SHARE (1)	Ratio between online value sales and offline value sales
ONLINE SHARE (2)	Ratio between online value sales and total value sales (online + offline)
Core convenience variables (traditional retailing mix levers)	
REL. ASSORTMENT ON VS. OFF	Ratio between avg. weekly number of references online and avg. weekly number of references offline
AVG. PRICE ON+OFF	Ratio between total value sales (online + offline) and total volume sales (online + offline)
REL. PRICE ON VS. OFF	Ratio between average online price and average offline price
REL. PROMO ON VS. OFF	Ratio between promotional pressure (% of promotional value sales) online and promotional pressure offline

Extended convenience variables (category specific characteristics)	
DUMMY FRESH	Sensory, all products whose storage temperature is by law from 0 to 4 Celsius degrees
DUMMY FROZEN	Planned, all products whose storage temperature is by law at -18 Celsius degrees
DUMMY FRUIT&VEG	Sensory, all fresh products from fruit and vegetables ECR categories stored at ambient temperature but assimilable to fresh products
DUMMY AMBIENT	Planned, all products stored at ambient temperature with long shelf life excluding fruit and vegetables
DUMMY BULK/HEAVY	All products difficult to transport due to weight or size (i.e, heavy or bulky bottled, canned or bagged), in order to determine the belonging to this category, the LARGE indications from a major retailer website have been taken as discriminant parameter.

Two models have been designed accordingly: the first model tested the significancy of "core" convenience variables as follows:

$$SHARE_{it} = C + \beta_1 RELPRICE_{it} + \beta_2 RELASS_{it} + \beta_3 RELPROMO_{it} + \beta_4 DPRECOVID_{it} + \varepsilon_{it}$$

The second model conjointly tested significancy of "core" and "extended" convenience variables:

$$SHARE_{it} = C + \beta 1\ RELPRICE_{it} + \beta 2\ RELASS_{it} + \beta 3\ RELPROMO_{it} + \beta 4\ AVPRICE_{it} + \beta 5\ DFRVF_{it} + \beta 6\ DFROZEN_{it} + \beta 7\ DBUHE_{it} + \beta 8\ DPRECOVID_{it} + \varepsilon_{it}$$

Results of each model are shown and individually discussed in the following paragraph.

Findings

Based on Model #1 results shown in Table 2, we can firstly infer that a higher relative online assortment significantly increases the ratio between online and offline purchases thus confirming H1. Secondly, a higher relative online price significantly reduces the ratio between online and offline purchases thus confirming H2.

Table 2 - Model #1 Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.018324	0.006244	2.934497	0.0033
RELPRICE	-0.012520	0.002272	-5.511207	0.0000
RELASS	0.020904	0.000253	82.51982	0.0000
RELPROMO	0.004829	0.000670	7.205603	0.0000
DPRECOVID	-0.027630	0.002022	-13.66807	0.0000

In addition, from the model results we can also determine that a higher relative online promotion significantly increases the ratio between online and offline purchases. The model also allows us to prove that online purchases are significantly higher in the post-Covid period indicating, as stated earlier, that the online channel adoption is no longer a matter of "emergency", but it is confirming as a consolidated habit.

Based on Model #2 results shown in Table #3, we can confirm coincident results with the previous model, confirming H1 and H2 hence not confirming H3 and H4 that resulted non-significant. Category-specific characteristics, at this first level of development of Online

Grocery Shopping in Italy are yet not relevant unlike other results in previous literature (Campo et al., 2022) who followed similar approaches but relying upon data from countries where the degree of Online Grocery Shopping development is significantly higher (i.e., Italy with an overall online sales share of 2% vs. UK with an overall online sales share greater than 20%).

Table 3 - Model #2 Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.038948	0.008558	-4.551242	0.0000
RELPRICE	-0.010857	0.002251	-4.823143	0.0000
RELASS	0.020234	0.000253	80.04707	0.0000
RELPROMO	0.005040	0.000663	7.601357	0.0000
AVPRICE	0.005375	0.000232	23.21753	0.0000
DFRVF	0.013762	0.012623	1.090251	0.2756
DFROZEN	0.017172	0.029055	0.591021	0.5545
DBUHE	0.020288	0.014554	1.393979	0.1633
DPRECOVID	-0.026435	0.001885	-14.02222	0.0000

Contributions

The paper provides strong practical contributions to modern multichannel grocery retail practitioners that are conjointly managing a bricks-and-clicks store network extending utility maximization theory to the construct of convenience as one the core drivers of Online Grocery Shopping adoption. To the best of our knowledge, the paper is one of the first to develop its models on real-world sales data with a category-specific level of detail, capable of delivering more detailed results.

Practical implications

At an early stage of development, online channel represents an alternative to the offline, traditional and "mainstream" one, where the vast majority of consumers usually do their shopping and on which they base comparisons (Duarte et al., 2018). It follows that traditional retail marketing levers such as assortment, price, and promotions are relevant to the extent that serve as "aligning" drivers even before as a driver of differentiation. Lower prices, higher assortments, and higher promotions, in the initial stage of development of the online channel, serve as benchmark for consumers to decide whether or not switching channel or adding a new channel.

The online channel, due to offer constraints, cannot be sustainable without asking the consumer for a comparison and a compromise together: firstly, consumer evaluates the degree to which the two channels are aligned in terms of assortment and prices and only in the second instance they start evaluating the category-specific variables that may make it the preferred channel in terms of transaction utilities (i.e., does the effort reduction given by home delivery mitigate the perceived risk to buy fresh food online without directly sensing it?). It follows that only if it passes the comparison, then the online channel is eligible for consumers as a possible channel alternative or integration within their shopping journey.

Our findings are particularly pertinent to multichannel retailers that must devise an online and multichannel marketing mix plan to encourage consumer growth in the online sales share. First, multichannel retailers should take advantage of the benefits of online shopping to maximize the effects in the most advantageous categories. For instance, they should clearly state the advantages of online buying, such as the ease of ordering and delivery. Such initiatives may encourage customers to check out the chain's online store and boost category spending. Second, because competitors' online stores are so close by, and because online/offline assortment integration, relative online price, and the breadth of the online assortment, all have significant main effects, it is likely that online grocery shoppers tend to compare prices between chains.

Research limitations and outlook

The studies presented in this dissertation suffer from a major limitation: both field data, text data and company data were gathered in Italy and may suffer from the poor development of Online Grocery Shopping in this country. It is likely that if the study had included data from countries where Online Grocery Shopping is more developed such as UK, the final results would have been probably different.

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International/global retailing

INTERATIONAL RETAILERS AS A DRIVING FORCE FOR BUILDING SUSTAINABILITY: A QUALITATIVE STUDY

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Key words: Global retailing, Sustainability, Networks, Institutional perspective, Qualitative research

Introduction

Sustainability is becoming an increasingly important critical factor that must be handled globally, based upon cooperation between many key actors. It is also often argued that multinational enterprises need to take a leading role. For example, it is argued that they need to take a main responsibility for fulfilling the Sustainable Development Goals (SDGs) put up by The United Nations with the intent to reduce inequalities, climate change and create a fair society (Ghauri and Cooke, 2022, Montiel et al., 2021). This will require an active involvement in collaboration with actors such as governments and NGOs, but also to drive change in the value chain (Van Tulder et al., 2021, Awan et al., 2022).

International retailers have a major responsibility here. They are often responsible for the whole value chain from suppliers, often located in emerging markets, all the way to the final customers (Glover et al., 2014, Wilson, 2015). They will also have continuous contacts with political actors as well as NGOs and other social actors regarding different aspects of their operations. This extensive net of contacts makes retailing a complex operation, involving the interests and expectations of many stakeholders. Furthermore, there are different views internally within the retail organization, depending on whether you consider the corporate, country, product or store level (Elg et al., 2021) Furthermore, a global retailer faces the fact that sustainability means different things on different markets - due to cultural, structural and legal differences (Tan and Wang, 2011, Elg et al., 2017).

Purpose

The purpose is to investigate how global retailers can actively drive sustainability in interactions with their network of actors and influence institutional perceptions. The results will enable retailers to push sustainability in a more systematic way and understand what the critical issues are that must be addressed in relation to different stakeholders.

Conceptual framework

Sustainability needs to be related to taken for granted assumptions about what is right and wrong and how things should be done in a society as well as in an organization. The paper therefore applies an institutional perspective (e.g. Scott, 2013). It will investigate how two retailers work with increasing the support for sustainability internationally through the normative, cognitive and regulative institutional pillars, identified by Scott (2013). The network approach (e.g. Ford and Mouzas, 2010) sugests that retailers need to offer relevant

resources, involve influential actors and perform supporting activities to mobilize their networks.

Design/methodology/approach

The study is based upon a qualitative case study design. Considering the limited knowledge of the issue that will be studied, a qualitative in-depth approach was preferred. The sustainability work of two Swedish retailers – IKEA and Hennes & Mauritz (H&M) – was investigated. The research on IKEA was done between 2016 and 2020. In-depth interviews were conducted at the head office as well as the local Swedish organization, and the country organizations in Germany and the UK. Interviews covered both managers specifically responsible for sustainability and those with broader responsibilities. The H&M project started in 2019 and is still ongoing. Here, interviews were conducted at the head office in Stockholm as well as with managers on the Bangladesh and Turkey markets. In total, 42 respondents were interviewed. Most of them in-person, but since part of the H&M project has been carried out during the pandemic, interviews with managers in Turkey and Bangladesh were also done online. In addition, the research had access to extensive written documentation, such as strategic plans and sustainability reports.

The material was coded using NVIVO12 to support the analysis and make the work more systematic. A first round of coding was done based upon the three institutional pillars. Each of them was then coded for actors, resources, and activities. This resulted in a 3x3 matrix that could be further analysed for patterns and main themes.

Findings

This research is still in progress and the findings so far should be considered as preliminary. Some of the key patterns and themes are illustrated by Table 1. It is beyond the scope of this abstract to go through all nine cells, bur some examples based on the table will be discussed. The items put in italic are barriers and obstacles that may prevent the sustainability work or at least make it more difficult.

Table 1. Key patterns identified.

	Regulative	**Cognitive**	**Normative**
Actors	Keepers of order Agenda changers *Underminers*	Opinion leaders Convinced believers *Sceptics*	Beneficiaries Enablers *Opponents*
Activities	Create urgency Monitor and enforce *Competing drivers*	Constantly strengthen the message Educate and lead to create commitment *Misfortunes and resistance*	Transfer of practices and knowledge Offer a business case for sustainability *Inconsistencies and discrepancies*
Resources	Regulative frame Sanctions *Contradictory rules*	Bearers of credibility Arenas for display *Obstacles*	Carriers of relevance and benefits Documents and plans *Diminishers*

The **actor dimension** identifies roles that various actors can have in promoting normative, cognitive, and regulative aspects of sustainability. For example, regarding the regulative pillar actors may ensure that existing sustainability regulations are respected, but they may also

work as agents for further sustainability regulations. There will also be underminers who strive to question or ignore sustainability rules and regulations. The cognitive pillar stresses opinion leaders who may serve as legitimizers and actively try to convince others that sustainability is the right thing, and important for our future. There are also believers, who may not actively drive sustainability but are convinced enough to acknowledge the importance. At the same time, sceptics, who don't acknowledge sustainability as a main factor, were identified.

The **activity dimension** highlights that building normative support for sustainability requires a business case that shows how it may be combined with, and even strengthen, regular business and economic interests – and that it is not a burden. On the other hand, there were activities that strive to show discrepancies and inconsistencies regarding how sustainability affects business as well as other main interests in the society. The study also identifies activities aiming at constantly strengthening the regulative sustainability framework – for example by creating a sense of urgency by showing that the climate change indeed calls for immediate interference – while there will also be competing activities going on that give examples of how regulations may harm other important factors - such as create inefficiencies, reduce people's wealth, threaten jobs, etc.

Finally, **resources** need to be utilized in support of sustainability. Different arenas of display are resources that enables the retailers to reach out to different stakeholders. Arenas can be social media to convince customers, international conferences and meetings that reach business partners or decision makers in society. For example, one IKEA manager discussed how important it is to be present and stress sustainability in a forum such as the UN. The normative pillar also needs the support of documents and plans that stress sustainability. For example, it was discussed that strategic plans and commercial calendars can be an important support if sustainability is an integrated part, because it shows that it is an accepted part of daily operations. At the same time, certain resources were found to diminish the importance of sustainability. One example is best selling products in the store that has no sustainability content whatsoever.

Contributions

The nine fields in our matrix can all be further investigated by future research. This paper gives a broad view, but a deeper understanding of each field is needed. Nevertheless, the research shows the relevance in applying a network perspective to understand how to drive sustainability internationally.

Practical implications

It can also be argued that the matrix gives clear guidelines regarding how international retailers as well as other MNEs may work systematically to contribute to the SDGs discussed earlier and also how different stakeholders may contribute in driving the regulative, normative and cognitive basis of sustainability. From a managerial and a societal point of view, it is also important to identify and understand the different barriers and the resistance that will occur.

Research limitations and outlook

As discussed above, more in-depth knowledge is required for the each of the nine fields. Furthermore, this has been a qualitative study that can suggest generalization of an analytic nature. However, in order to find out how well the insights provided corresponds to different types of retailers, a broader study is needed.

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UNTANGLING THE INSTITUTIONAL CHALLENGES TO SDG 12.3: THINKING BEYOND THE PANDEMIC IN EMERGING ECONOMIES

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Keywords

SDGs, Food Supply Chains, Food Loss and Waste, Sustainable Development Goals, Institutional Theory, Stakeholder Theory

Introduction

The Food and Agriculture Organization estimates (2021) that about 13.8% of global food is wasted, translating to a more than 400 billion USD loss annually. Currently, literature tends to focus on the consumption side of food systems as food waste generated during the consumption stage has the most significant economic impact (Garcia-Herrero et al. 2018; Wang et al. 2017).

In high-income countries like Europe and North America, where research tends to focus, Food Loss and Waste (FLW) is generated predominantly in the consumption stage, which is in contrast to FLW in developing and low-income countries, where loss is mainly in the supply chain context due to various limitations within the supply chain (Hu et al. 2019; Janssen et al. 2017; Raut and Gardas 2018). Considering that the post-harvest processing stages contribute significantly to FLW and thereby adversely impact the achievement of SDG 12.3[1], it is becoming increasingly difficult to ignore the impact of FLW management (Ellis, Kwofie and Ngadi 2020). This warrants further research as FLW generated in various stages of the supply chain within a developing world context is a significant inhibitor to SDGs.

This study explores the institutional challenges in mitigating FLW using India as a research context. With small-scale players dominating the Indian FSC, the pandemic significantly exacerbated the achievement of SDGs, including SDG 2 (zero hunger), SDG 3 (Good Health and well-being), and SDG 12 (Responsible Consumption and Production) (Workie et al. 2020).

Purpose

The effect of the pandemic was more pronounced in regions with higher exposure to COVID-19, as Lowe, Nadhanael and Roth (2021) evidence using the correlation between exposure to COVID-19 and drops in food arrivals in states of India. Due to the higher number of cases of COVID-19, the pandemic significantly impacted the institutional structures in Kerala, a southern state in India. By addressing these matters stemming from supply chain-centric issues,

[1] By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

the study aims to answer the question, "How can overcoming institutional challenges in food supply chains facilitate the achievement of Sustainable Development Goals in a developing economy?"

It is imperative to explore structures and their underlying institutional inhibitors to SDG 12.3 to address this question. Therefore, the study aims to examine the institutional factors that contribute to FLW and further analyse the impact of the pandemic on structural inefficiencies in FSCs leading to FLW.

Methods

This research paper begins with a review of relevant literature on FLW, FSCs, and SDGs in developing economies and substantiates the limitations in the current literature. The study explains the multiphase research method in exploring and ranking the inhibitors to SDG 12.3.

A comprehensive literature review of 83 studies identified several institutional inhibitors to FLW management. Following this, we used a multi-stage combining qualitative and quantitative research methods to explore this in the Indian context. Qualitative data is vital in informing effective ways to reduce and divert FLW, while quantitative data is imperative in identifying and monitoring the effectiveness of initiatives designed to achieve SDG 12.3 (Goodman-Smith, Mirosa and Skeaff 2020).

To address the gap in research in the developing economy context, we focused on Kerala as the research context. At the time of the research, this state had one of the highest COVID-19 infections, resulting in significant disruptions to the FSC due to restrictions on trade and movement. The mixed-method study ranked the critical barriers to SDG 12.3 and, using

qualitative data, explored the structural and institutional challenges that contributed to these barriers.

The quantitative research process involved data collection from critical stakeholders in the food industry, including Kerala-based food business owners/managers. Through face-to-face interviews, 329 participants responded to the questionnaire translated into the local language. In addition to demographic and operational questions, the questionnaire included a list of barriers to FLW in the supply chain that the respondents rated based on their relative impact on FLW generation. The online questionnaire had images of SDGs, thereby improving the respondents' comprehension. To ensure the integrity of the data, the research team collected geotags of the respondents' locations and verified other metadata, generating a stakeholder-prioritised list of key drivers to FLW in the Indian FSC context.

To explore the underlying inhibitors to these identified factors and present interconnected complexities associated with FLW in the FSC, the team collected qualitative data from experts in the industry through an iterative research process. Chosen based on their expertise and senior positions within organisations involved in the food industry, the respondents included managers, owners, and academics involved in the food industry in Kerala, India. These interviews, ranging from 30 minutes to 1.5 hours, explored the critical perspectives of 20 experts in Food Waste and Loss management.

Findings

Quantitative findings - Using a Likert scale, the respondents rated 39 barriers to FLW and SDG 12.3, and the following table ranks the five most perceived inhibiter to FLW management. This section shows supply chain-specific factors, including operations (handling, storage, production

planning, forecasting, and infrastructure), are more influential than consumption and product-based barriers. Therefore, this requires further scrutiny of the impact of institutional inhibitors that result in these barriers to FLW.

Ranking of FLW barriers

FLW Cause	Perceived barrier (mean)
Poor handling (e.g., dropped products)	4.56231003
Poor storage	4.516717325
Ineffective planning and production	4.489361702
Inaccurate forecasting/poor demand planning	4.477203647
Challenges in infrastructure (e.g., transportation, refrigeration, packaging, etc.)	4.474164134

Qualitative findings (Institutional inhibitors) - Although the study identified multiple enablers of SDG 12.3, including governmental mechanisms and consumer pressures for sustainability, this study focuses only on the supply chain-specific barriers to SDG 12.3, thereby limiting the scope of the findings to the supply chain. Underlying institutional inhibitors pose barriers to FLW management from an FSC perspective and result from operational issues, channel management inefficiencies, leadership, and structures and policies in organisations within the FSC.

Operational limitations in the Supply Chain - Barriers associated with handling, storage, infrastructural challenges, and other waste-handling processes are due to operational inhibitors within the supply chain. Supply chain inefficiencies resulting from resource limitations can

contribute to FLW. These limitations pertain to infrastructural and logistical challenges resulting in ineffective transportation, storage solutions, production, packaging issues, etc.

Technological limitations to the communication systems and accurately forecasting supply and demand in food systems can significantly negate SDG achievement. Barriers associated with inaccurate forecasting, ineffective planning and production and supplier management and increased product defects could be due to the technological limitations in the FSC. In the distribution context, wherein several small distributors are in semi-urban and rural areas, ordering and replenishing retailer stock is not technologically enabled, resulting in stockouts and excess inventory.

Strategies, Structures, and Policies - In the research context, FLW is generated through the push-selling strategy of inventory through the marketing channel, resulting in retailers holding more inventory through aggressive channel sales strategies. Ineffective supplier management and the absence of FLW handling strategies and knowledge can result from the FSC strategies. Such aggressive sales strategies, although benefiting the brand in increased shelf space and improved sales, could result in increased FLW due to unsold stock being returned to the distributor, thereby contributing to FLW.

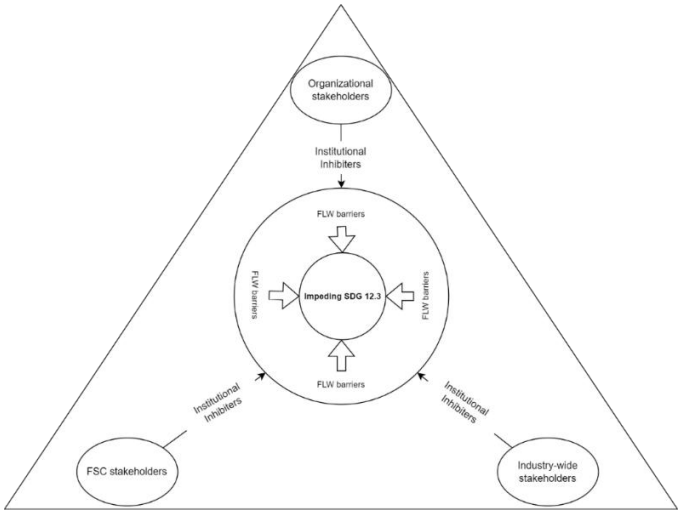
Another industry expert commented on modern consumer values contributing to increased waste by citing the differences between traditional and contemporary food accumulation habits. By noting the example of ancient tribal communities, he explained the impact of current consumption-based values on wasteful behaviour.

> *"For example, these people would be hunting birds. But they will hunt only when they're hungry. But we don't do it for our hunger anymore; we want to accumulate money and resources so that we can live a luxurious life... and that is a problem in our mindset."*

The Government imposed restrictions for the containment of the pandemic, including lockdowns through limitations to movement and gathering and reductions to the trading hours of retail outlets, thereby significantly affecting the food supply chains in Kerala. Such strategies resulted in ripple effects along the supply chain due to ineffective communication and the fear of extended lockdowns.

As the qualitative findings indicate, institutional inhibitors stemming from the symbolic actions and influences of stakeholders (within the organization, supply chain level, and industry-wide) negate the achievement of SDG 12.3. The qualitative data suggest stakeholder actions, including governmental directions (industry-wide), market expectations (supply chain level), and operational limitations stemming from employees (organizational) and the industry, can result in institutional inhibitors within the food industry (see figure). Such inhibitors to FLW management can therefore impede the achievement of SDG 12.3. This finding extends the argument by Bridoux and Vishwanathan (2020) that influential stakeholders can constrain an organisation's stakeholder orientation in the supply chain context.

Conceptual Framework of Inhibitors to SDG 12.3



Practical implications

Reducing food loss and waste (FLW) is crucial for achieving SDG 12.3, as it has economic, social, and environmental consequences. This study focuses on the systemic inefficiencies within the Indian food supply chain (FSC) that hinder the achievement of SDG 12.3. The COVID-19 pandemic has exacerbated these challenges, particularly in developing economies with food insecurity concerns. By shedding light on these inhibitors, the study equips supply chain managers and policymakers with valuable insights to prioritise intervention strategies and work towards reducing FLW and achieving SDG 12.3.

Research limitations and outlook

The study collected data from Kerala, a relatively developed state in Southern India with higher education and purchasing power than others (Suryanarayana, Agrawal and Prabhu 2011). However, this limits the generalizability of the findings to other developing economies and states in India, which have different agricultural workforces and irrigation levels (DACFW 2015). Additionally, the research context is limited to one state with a population of 35 million

residents, which can be seen as a limitation. Future researchers should address this limitation by conducting comparative studies with other developing economies. Furthermore, the data was limited to India, a country heavily affected by the pandemic, which has significant implications for India's food supply chain sustainability.

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LUXURY FASHION RETAILERS' INTERNATIONALISATION: A MIXED-METHODS STUDY OF DYNAMIC PROCESS IN CHINA

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Keywords

Internationalisation, International Marketing strategies, International Retailing, Luxury Fashion Marketing, Luxury Fashion Retailers, Glocalisation

Introduction

A new report *China Luxury Market Report 2022* in Bain & Company (2023) revealed that the Chinese luxury market contracted 10% year-on-year in 2022 caused by Covid-19-related business disruptions. This marked the end of a five-year streak of exponential growth in the luxury market. However, China still remained the most promising market in spite of setbacks in 2022 (Bain & Company, 2023). In the context of the Chinese luxury fashion market, even though there is increased scholars' interest in the perspective of consumer behaviour (Xu and Nuangjamnong, 2022; Wang *et al.*, 2021), social media (Sun *et al.*, 2022; Bazi *et al.*, 2020), and brand management (Rao and Ko, 2021; Faschan *et al.*, 2020), only a few have employed the scope of international retailing (Bai *et al.*, 2022b; Liu and Bai, 2022). Additionally, the generality of the existing literature has adopted an international business perspective on emerging market multinationals (EMNCs) and focused on Western traditional MNCs rather than EMNCs (Bai *et al.*, 2022b). Therefore, the study is deserved to propose in the China market whilst as an emerging market from an international retailing perspective.

More recently, Bai *et al.* (2022a) found that luxury fashion retailers employed both standardised global and localised multinational marketing strategies when they originally entering into China. Correspondingly, evidence from IKEA's internationalisation, with a business model of incremental growth, while its initial entry into China was standardised, it later became more local, then integrated into the global market, based on the research of Burt *et al.* (2021). This hinted that luxury fashion retailers' internationalisation is a dynamic process. Moreover, Alexander and Doherty (2010) stated that internationalisation in retail is a continuous and dynamic process. Yet, existing studies provided at a strategic level from a relatively static perspective (Bai *et al.*, 2022a; Wigley and Chiang, 2009). Besides, Gu (2012) disclosed the crucial success factors for luxury fashion retailers are not static but dynamic and change with

the market environment change. The research gaps in the prior literature serve as an explicit guide for this study. As such, a dynamic perspective will be adopted in this study across time, particularly as these retailers' transition from the initial stages of entry into a foreign market to the post-entry phases of development in those markets.

Purpose

Prior studies have focused on supermarkets more than luxury fashion retailers (Burt *et al.*, 2021; Burt *et al.*, 2017; Burt *et al.*, 2016; Moore *et al.*, 2010). For instance, Burt *et al.* (2017) analysed the experiences of Tesco, Carrefour, Walmart, and IKEA's four retailers in different host countries, which provided insights into the challenges and opportunities that retailers face in adapting to local conditions. Furthermore, Frasquet *et al.* (2013) based on empirical data from Spanish retail firms operating in international markets whilst delineating the relationship between dynamic capabilities and post-entry internationalisation activities. This study therefore aims to develop a model of the dynamic process of luxury fashion retailers' internationalisation in China, within the perspective of international retailing.

Conceptual framework

The theoretical underpinning is the earlier theory of the Uppsala Model (Johanson and Vahlne, 2009 & 1977), which is from the perspective of international business and explained the globalisation process. The Uppsala Model states that firms initially expand to the markets psychically approximate to their domestic markets, and when they become more confident through earned local market know-how and international experience, they then enter into more distant markets (Bai *et al.*, 2021b; Vahlne and Johanson, 2017). For example, the internationalisation of ZARA and H&M seems to follow the Uppsala Model that they first chose their investment in geographically and/or culturally close foreign markets to their home markets before they extend into more psychical distance markets when they have gained local knowledge and international experience (Bai *et al.*, 2021a). The Uppsala model identified that a firm internationalisation direction is influenced by psychic distance, which is reflected by the retailers to minimise perceived risk such as manufacturers, fast fashion, and luxury fashion retailers (Bai et al., 2021a; Johanson and Vahlne, 2009). The concept of psychic distance has been employed by Alexander and Doherty (2009) in order to examine the determinants of retailer internationalisation, including geographical/cultural proximity, sufficient economic development, and similar social conditions as the domestic market. A classic international business literature describes psychic distance as the core of the incremental internationalisation approach, which explores issues such as culture, language, education, business practice, political and legal systems, economic growth, and industrial structure (Evans et al., 2008).

This study thus will follow the classical international business model - The Uppsala Model, employs the perspective of international retailing, and provides insight into the luxury fashion retailers' dynamic international marketing strategies in China, to develop an initial conceptual framework - Luxury Fashion Retailers' Dynamic International Marketing Strategies in China (see Figure 1).

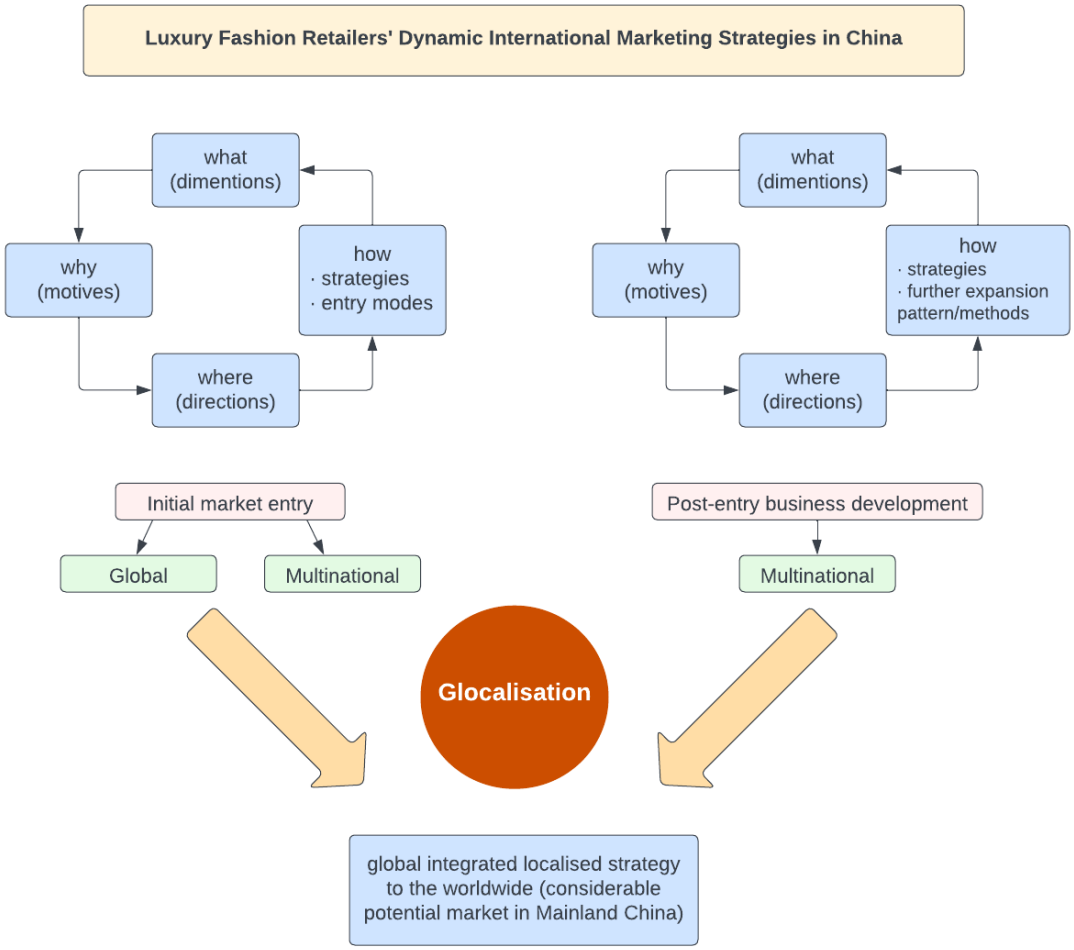

Figure 1: Heart Model of Glocalisation (Initial conceptual framework - Researcher's construct)

As Figure 1 shows, the process of luxury fashion retailers' internationalisation in China, from initial market entry to post-entry business development (Bai *et al.*, 2022b), and then standardised global integrated adapted multinational marketing strategy led to the glocalisation (Liu and Bai, 2022). This followed the Uppsala Model which is these international luxury fashion retailers' initial entry chosen geographically and culturally close markets, and further chosen more psychical distance markets when they gained more confidence. Indeed, the China market is worldwide since a considerable potential market and the Chinese consumer has one of the highest levels of consumption power on the planet, this would generate China market from domestic going global once again or integrate to other markets. This study will depth examine each process in detail in terms of what (dimensions), why (motives), where (directions), and how (strategies/entry modes in initial market entry and further expansion pattern/methods in post-entry business development).

Methodology

This study will employ a mixed-methods endeavour to answer the research questions of 'what', 'why', 'where', and 'how', aiming to examine the dynamic marketing strategies of luxury fashion retailers in China. As Creswell and Creswell (2018) pointed out, mixed methods can provide a comprehensive, deep understanding of an issue whereas only utilising a single method would not have the desired effect. Subsequently, a pragmatic two-stage including the first stage of qualitative depth semi-structured interviews, and the second stage of quantitative questionnaire would adopt. The study sample will consist of luxury fashion retailers operating in China. In the first stage, in-depth interviews with the senior executives from the target retailers would collect as primary data, which enables us to provide an exclusive understanding from senior executives of luxury fashion retailers' marketing strategies in the China market. The secondary data would collect the documentary data from the official website, and official annual reports to examine the research questions. The second stage questionnaire questions would generate from the first stage finding, to quantitatively test the feature designed from the first phase findings produced in certain ways. Data from quantitative measurements could offer a highly reliable, valid method of generalising findings.

In the first stage, twelve participants will recruit from the target luxury fashion retailers, which will be selected from the members of the world-leading professional luxury fashion organisations which includes Walpole (UK), the British Council of Fashion (UK), the Italian Fondazione Altagamma (Italy), the French Comité Colbert (France), and the US-based Council of Fashion Designers of America (US). Additionally, based on Deloitte's latest annual list of 100 luxury companies in the world, the screening was conducted which is evaluated mainly by established organisations' marketing reports, including Bain & Company, KPMG, Mintel, and McKinsey & Company. In the plan, the target samples will be recruited from two major kinds of companies. The first is multi-brand parenting conglomerates, such as LVMH, Kering Group, Richemont Group, Hermès Group, Prada Group, Capri Group, Burberry Group, Brunello Cucinelli Group, Ralph Lauren Group, and Moncler Group. The second is independent or private brands, such as CHANEL and BURBERRY, etc. In terms of the country of origin of participating retailers, the present study will not only focus on the developed country market but also consider emerging country markets, especially China, such as Shandong Ruyi Group and Fosun Fashion Group, etc. The interview data will be analysed through thematic analysis, a number of codes created with NVivo 12. Interview questions will be asked concerning, for instance, the motives behind luxury fashion retailers' internationalisation, the most effective international marketing strategy for business development management after luxury fashion retailers' initial entry into mainland China/post-entry.

In the second stage, a Likert-scale questionnaire will be designed and delivered to the senior executives in the target organisations. The pre-considered delivery number is 130, in order to gain a high response rate. The mean value will compare to the independent sample t-tests in SPSS 22. Questionnaire questions will be asked concerning, for instance, the entry method(s) and expansionary method(s) is (are) employed by luxury fashion retailers in China. The questionnaire will require about 15 minutes to complete.

Projected findings

The study is still ongoing and has not yet been completed. The projected findings would be the gaps in the existing literature as mentioned above. Many studies focus on supermarkets; from a relatively static perspective; and studied on Western more than emerging market multinationals such as China. By reviewing the literature, a new model develops for the dynamic process of luxury fashion retailers' internationalisation.

Potential contributions

This study adopts an international retailing perspective and innovatively examines the dynamic and continuous process of luxury fashion retailers' internationalisation, as current studies focused on a relatively static perspective Bai *et al.* (2018). This study enriches international retailing and international marketing strategies literature. It also contributes to the knowledge of glocalised marketing strategies, as the study possibly implies the importance of an integrated approach for international luxury fashion retailers to maintain their business development in China market.

Potential practical implications

Practitioners could use the findings of this research when evaluating appropriate entry strategies into the Chinese luxury fashion market. In addition, this study would suggest the practitioners remain their business development in China market or attend to entering other similar EMNCs by adopting a dynamic process of an integrated approach - glocalisation. Furthermore, the internationalisation of luxury fashion retailers would be suggested continuously adjust their marketing strategies whether initial entry or post-entry.

Research potential limitations and outlook

The participants of this study are specific, only senior executives from luxury fashion retailers which entered into China market. The eligible people are a small group, which means recruitment would be challenging to get access. The subsequent studies would suggest continuing this study to fill the initial conceptual framework model, and test or extend it.

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Keywords

Internationalisation, International Marketing strategies, International Retailing, Luxury Fashion Marketing, Luxury Fashion Retailers, Glocalisation

RETURNABLE PACKAGING SYSTEMS IN GROCERY RETAILING – PROCESSES AND CHALLENGES

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Keywords

Returnable packaging systems, instore logistics, recycling, reusable packaging, circular economy

Purpose

As part of the Green Deal, the European Commission aims at reducing packaging waste and increasing recycling rates up to 70% in the year 2030. Retailing plays a key role in increasing the share of products with returnable packaging in supply chains through their assortment listing decisions (Mahmoudi und Parviziomran 2020). Beverages are the key category in grocery retail stores offering returnable bottles in glass or plastic for beer, mineral water, or soft drinks. Further, grocery retail stores represent the central hubs for the distribution to as well as the recycling of returnable packaging (Calabrese et al. 2021).

Despite the recent regulation, retailers have been hesitant to expand assortments with returnable packaging as well as to establish return systems in store. This is argued by high complexity cost that come with setting up circular business processes as well as cost for installing the according technical equipment.

Current research on returnable packaging systems (RPS) on the retail stage of the food and beverage supply chains, however, offers limited insights related to efficiency of such systems (Cooper und Gutowski 2017). This research aims at identifying and evaluating activities and processes related to RPS on an instore level which refers to the daily operations as well as the cost and financial aspects of deposits, and the impact on personnel.

Methodology

Through the lens of the actor-network theory and based on 30 interviews with store managers including on site observations we develop a research model that structures key processes of RPS and their input and output factors. The text data is analysed using content analysis involving two independent coders. The initial coding system is grounded in the generic in-store logistics model of Kotzab und Teller (2005).

Findings

Results indicate that the level of complexity in the handling of RPS is highly underestimated for grocery stores. This includes additional cost of personnel required for i) ensuring the permanent functioning of vending machines to guarantee customer satisfaction, ii) cleaning and sorting of bottles and crates returned by consumers, and iii) preparing products for storage and collection by suppliers. Further, RPS call for a careful management of finances around the handling and administration of deposits to prevent financial harm. Lastly, a well-functioning RPS requires seamless processes with suppliers to keep complexity low.

Contributions

The key contributions of this research are as follows: First, we propose a conceptual model that describes the key operation processes and reflects the main associated RPS in retail stores. This contributes to better transparency about activities and processes on an instore level. It thus can support retailers in their communication with key stakeholders groups as well as public policy institutions during the upcoming expansion of RPS.

Second, the empirical insights bear valuable information for other European retailers in their effort to established RPS. This carries the potential of a pan European research project to contribute to a faster expansion of RPS and the acceleration of retailing towards a circular economy model.

Practical implications

Overall, we contribute to a more in-depth theoretical and managerial understanding of the instore operations on a grocery store level. Further, our insights add to the limited body of knowledge related to store operations and marketing with a focus on the distribution and recycling of reusable packing.

Keywords

Returnable packaging systems, instore logistics, recycling, reusable packaging, circular economy

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RESILIENCE OF IN-STORE OPERATIONS DURING TIMES OF CRISIS

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Keywords

In-store operations, in-store logistics, resilience, crises, shopping behaviour

Introduction & Purpose

Crises influence behaviour – shopping or personal one (Boyle *et al.*, 2022; Koos *et al.*, 2017) Furthermore, it impacts someone's wellbeing. Crises forces people to disrupt their patterns and routines in their daily life, and so does in shopping groceries (Duchek, 2020; Mathur *et al.*, 2003). Crises increases uncertainty among the society, which can be decreased by different measurements like lockdowns (Guthrie *et al.*, 2021; Boyle *et al.*, 2022; Sheth, 2020). Reasons for changes in shoppers' behaviour can be shopping behaviour of other consumers (Galoni *et al.*, 2020; Pandelica and Pandelica, 2009), emotions like fear or anxiety, etc. (Campbell *et al.*, 2020).

Whether someone changes its behaviour during crises differentiates on an individual basis (Sheth, 2020). The more often you go for shopping, the more stable the behaviour will come (Steenkamp and Maydeu-Olivares, 2015). Furthermore, consumers can be resilient when it comes to shopping behaviour during crises, e.g. online shopping behaviour (Guthrie *et al.*, 2021). Resilience describes the ability "to absorb disturbances and re-organize while undergoing change" (Folke, 2006, p. 259). Koos *et al.* (2017) describes that the type of the crisis as well as the impact of it has an influence of the consumption during a crisis. Talking about resilient shopper behaviour, it depends on the channel (online, offline) whether shopping patterns change or not.

Changes in shopping behaviour can lead to changes in the in-store environment, e.g. out-of-stock situations or increased use of self-service check-outs (Campbell *et al.*, 2020; Sheth, 2020; Hamer, n.d.). The total loss of turnover in the EU-27 during the Covid-19 pandemic was 18% compared to the year before. In order to identify how resilient in-store operations are during crises, retailers should understand the shopping behaviour of their consumers (Sheth, 2020; SnapRetail, 2020). Moreover, it is of high interest for retailers to understand the procedure and the impact of all possible crises so that they are better prepared in the future. Processes and operations within the store can thus be quickly adapted to new circumstances and, for example, staff shortages or sales situations can get minimised.

The in-store operations are influenced also by the frequency of shoppers. During the crises, grocery stores wanted to decrease the number of customers in the stores (Pantano *et al.*, 2020) and crowding within the stores should be avoided. At the beginning of the crises, consumes tended to stockpill, which normalized after a time (Garbe *et al.*, 2020). The result were empty shelves and disruption in the grocery supply chain (Liu, 2020).

This research focuses on grocery retail as it was the second most influenced sector beside the health care industry during the pandemic (Boyle *et al.*, 2022; Grashuis *et al.*, 2020). During crisis, especially in the beginnings, overall changes are within the publications like an increase in sales of durable goods. In the course of time sales decrease (Ellison *et al.*, 2021). Moreover, the food consumption changes in times of crises (Poelman *et al.*, 2021). The literature according shopping behaviour during crises focuses on changes in behaviour (Laato *et al.*, 2020) but excludes the impact of it on in-store operations. Therefore, this research deals with the shopping behaviour during crises and its consequences on in-store operations and focus on resilience of processes within the store. Changed and unchanged processes are included as well.

Conceptual framework

As a conceptual foundation, the authors rely primary on the grocery retail in-store logistics model (Kotzab and Teller, 2005), because it integrates all processes within the outlets of store-based retailing and differentiates between flow of products and flow of information. The model describes the whole process from delivery over storage to check out and re-order.

Methodology

The goal was to identify how (changed) shopping behaviour during crises (e.g. Covid-19 pandemic) influences in-store operations in grocery retailing (changes, stability and resilience of operations). Therefore, the qualitative study generated further insights about the shopping behaviour as well as the influenced in-store operations. The semi-structured interviews cover three phases of a crisis, namely the beginning phase (this study: beginning of Covid-19 pandemic), the lockdown phase (this study: first lockdown and third lockdown) and after phase (this study: after the Covid-19 pandemic). Each phase consists of four main categories: in-store logistics, other processes, employees and customer. The interview guide includes questions regarding the affectedness, reasons, antecedents, degree of affectedness, etc. – based on the processes of the in-store logistics model (Kotzab and Teller, 2005). Finally, some demographics regarding the interview person as well as the store are included as well.

The qualitative study was conducted two times during the Covid-19 pandemic (longitudinal study) in Austria. In order to avoid the risk of being pinned and in compliance with the legal provisions at the time, the interviews were conducted by telephone. The first survey took place at the beginning of the Covid-19 pandemic (25.03.2020-28.04.2020), while the 2nd survey took place 9-12 months later (14.12.2020-30.03.2021). The total sample consists of 50 interviewees: 28 store managers and 22 franchise partners, mainly located in rural areas. Typical demographics such as age of the person, gender, income etc. were not used, as the main focus was on the characterisation of the stores.

The interviews were transcribed according to Dresing and Pehl (2018). The analysis procedure was a qualitative one (Mayring, 2015). The authors developed the category system deductive and inductive. It is based on the in-store logistics model (Kotzab and Teller, 2005), further developed on literature review and finalised on the basis of the interviews. In order to ensure high-quality analysis, all interviews were double-coded by two independent coders. The reliability coefficient, kappa (min. 0.7), was assessed.

Preliminary Findings

The qualitative data analysis provides a detailed understanding of the (changed) shopping behaviour during crises and its influence on in-store operations. The analysis differentiates and compares the different phases of a crises as well as two different data collection times (first lockdown compared to third lockdown in Austria.

According to the store managers, the availability of goods was a major problem, especially at the beginning of crises. Due to the large number of outages of products, but also of human resources, the processes within a store were strongly affected, e.g. delivery of goods, handling and storage. At some stages of the crises, the steps of handling and storage in shelves was not necessary any more. The increased average purchase at the very beginning of the pandemic impacts the workload within the store. However, it was found that the longer the crisis lasts, the more resilient and normal the processes become. During the third lockdown, consumers learnt from their mistakes done at the beginning of the crisis (stockpiling) and so out-of-stock situation were only a problem at the beginning of the pandemic.

Consumers' shopping frequency decreased during the lockdown but the average purchases increased. This leads to long cues in the check-out area. Also, security measurements reinforced this change. Therefore, retailers and their employees needed to adapt their check-out area with extra security measurements, more cash desk open, more frequent personnel changes at this stage, etc. As the consumer normalized their shopping behaviour during the pandemic and so they will in the future, the operations at the checkout area normalized as well.

The employees as well as the management was strongly challenged. First, the consumers shopping behaviour changed at the beginning; second, dealing with consumers was more difficult (behaviour, security measurements, etc.); third, employees were in quarantine. Although some consumers changed their behaviour, the re-order process was resilient. During

the pandemic, there were no problems with food waste within the stores; some sections (e.g. fresh meat or bakeries) have decreases in turnover.

Contributions and Implications

This paper provides an in-depth understanding on how (changed) shopping behaviour influences in-store operations in times of crisis in grocery retailing (Contribution 1). Moreover, it contributes to the existing behaviour literature in connecting with the in-store operations and the literature covering the shopping behaviour during crises (Contribution 2).

This research elaborates the changed as well as stable shopping behaviour due to the crises (e.g. Covid-19 pandemic) with regard to in-store operations (change, stability and resilience) for the first time. The findings can also be applied to other crises and do not constitute a case study. The authors analysis approach is three-folded: First, the unit of analysis are the changed processes, second the stable ones (although some shopping behaviour changed) and third, the resilience of processes. The paper evaluates what processes / flows are changed due to crisis, remain stable or are resilient. (Contribution 3).

Finally, there are recommendations (for practitioners, retailer, policy makers) for dealing with crises, the shopping behaviour during those times and if and how the in-store operations need to be adapted. The recommendations include technical procedures in the branch as well as how to deal with staff and customers. (Contribution 4).

Research limitations and outlook

As every research, the present work is constraint by some limitations. First, this paper deals with the specific research context of grocery retailing. Therefore, the results only represent one retail sector. For future research, this could be extended to others. Second, the research is limited by its used research strategy (semi-structured interviews), quantitative research can be carried out subsequently to the project. To assess the real and unbiased behaviour a field experiment could be conducted in the future. As social contact should be avoided during the pandemic, the interviews were conducted via telephone, which represents another limitation. Facial expressions were excluded at this point. For future research the recommendation is to interview the respondents in person to avoid misunderstandings and include mimic and gestures.

Keywords

In-store operations, in-store logistics, resilience, crises, shopping behaviour

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SHOPPING MOTIVES: RELEVANCE AND CHANNEL PERCEPTION IN AN INTERNATIONAL CONTEXT

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Keywords

Shopping motives, channel perception, online channel, offline channel, international retail

Introduction

Practical relevance

Retail customers can utilize different channels during their customer journey (Lemon and Verhoef, 2016; Verhoef *et al.*, 2015). They can generally prefer offline stores or online shops, but they can also switch channels between the information search and purchase stage of the customer journey (Verhoef *et al.*, 2007). This leads to the question what motivates customers' channel choice in different stages of the customer journey and how well can different channels address these motives. It is further interesting to understand differences in these motives in an international context to develop targeted strategies for different national markets.

Theoretical relevance

Shopping motives stand at the beginning of the purchase process. They shape the customer journey in terms of retailer and channel choice (Morschett *et al.*, 2005; Rohm and Swaminathan, 2004) and cross-channel behaviour (Aw, 2019; Fávian *et al.*, 2019, 2020; Heitz-Spahn, 2013; Kleinlercher *et al.*, 2020; Schröder and Zaharia, 2008; Roy *et al.*, 2022). Shopping motives are related to channel choice and cross-channel behaviour, as the channels differently address the motives. Verhoef *et al.* (2007), for example, have shown that online and offline channels perform differently in attributes that are relevant in the information search and purchase stage. Hence, previous studies identified selected shopping motives and demonstrated that channels perform differently in addressing them. However, as this research mostly focuses on selected motives or motive factors, a more granulated view on shopping motives and the ability of channels to address such motives may provide additional insights and staring points for more specific and targeted marketing strategies. Furthermore, research indicates that single motives may differ between geographic markets (Evanschitzky *et al.*, 2014; Horváth and Adigüzel, 2014; Zielke and Komor, 2015). However, systematic comparisons of shopping motives between developed countries with historically grown retail structures and emerging countries with a developing retail sector are missing.

Purpose

Based on the research gaps outlined in the introduction, we address three research questions: (1) Which shopping motives are relevant for channel choice and cross-channel behaviour? (2) How important do customers rate these motives? (3) How do online and offline channels perform in addressing these motives? (4) How do importance ratings of motives differ between selected countries with different economic environment and retail structures?

Conceptual framework

Our conceptual framework builds on research about shopping motives in multi- and omni-channel contexts. Research on shopping motives often traces back to Babin et al. (1994) and focuses on motives addressing utilitarian and hedonic shopping value. However, understanding channel preferences and perception requires analysing more specific motives. Rohm and Swaminathan (2004), for example, considered convenience, information seeking and variety seeking as divers of online shopping and the needs for immediate possession, social interaction and retail shopping experience as inhibitors that direct customers to physical stores. Schröder and Zaharia (2008) identified convenience orientation, independence orientation, delivery-related risk-aversion, product- and payment related risk aversion and recreational orientation as relevant shopping motives. Heitz-Spahn (2013) analysed the literature in different channel contexts and identified five relevant motives: convenience, need for flexibility/independence, price comparison, variety seeking and shopping enjoyment. Her results show that need for convenience reduces cross-channel free-riding, while need for flexibility and price comparisons increase it. Aw (2019) found that efficiency shopping and bargain hunting negatively influence webrooming, while immediate possession has a positive impact. Kleinlercher *et al.* (2020) focus on need for sales advice, having fun, convenience and time savings and show how these motives influence webrooming. Flavián *et al.* (2019, 2020) consider how time and effort savings, monetary savings and the motivation to make the right purchase influence the perception of cross-channel behaviour. Roy *et al.* (2022) draw attention to habits and joy of discovery as motivations for cross-shopping behaviour. All these motives analysed in the literature are relevant for channel choice and cross-channel behaviour, as the channels perform differently in attributes addressing them. Verhoef *et al.* (2007) show, for example, that the online channel performs better on several attributes that are relevant in the search stage, while offline channels perform better on several attributes that are relevant in the purchase stage.

We further assume that the importance of shopping motives differs between markets with different economic development and retail structures. Previous research provided comparative studies between Germany and Poland, arguing that both countries show cultural similarities, but differ in their economies and retail sectors (Zielke and Komor, 2015; Zielke, Komor and Schlößer, 2023). These studies have shown stronger price orientations in Poland and explain these by lower income levels (Zielke and Komor, 2015). They further observed stronger bonds to physical store retailers in Germany and explain this through different retail structures (historically grown retailers shaping city centres versus shopping malls owned by international investors) (Zielke, Komor and Schlößer, 2023). Based on this research, we expect differences in shopping motives between German and Polish customers. Because of economic reasons, Polish customers might more strongly focus on motives related to the shopping outcome, while German customers might more strongly focus on shopping motives related to the shopping process and maintain their shopping habits.

Methodology

We conducted qualitative in-depth interviews with 24 customers in Germany and Poland. Using content analysis, we identified diverse shopping motives that we translated in 24 items as input for our quantitative survey study. In the quantitative study, we measured how important customers rate these motives (seven-point scale ranging from not at all important to very important) and which channel can better address them (seven-point scale with endpoints online channel and physical store). For the quantitative study, we collected data from a representative sample of 2000 respondents in each country using a commercial online panel.

Findings

The content analysis revealed a detailed catalogue of shopping motives. The motives are related to information search (find detailed product information, compare products in terms of price and features, touch and try out products, be advised by sales staff, know opinions and reviews of other customers), the shopping outcome (find the best price for a product, choose between many products, receive service during and after the purchase, easily exchange and return products), the shopping process (shop independently of time and place, shop quickly, shop conveniently, receive products quickly, have fun when shopping, have contact to other people, do not give personal data, protection of personal data), shopping habits versus new experiences (maintain habits, shop at known retailer, shop at trusted retailer, try new technologies, search for shopping experiences) and moral issues (supporting physical stores, sustainable shopping).

Quantitative results show that customers rate easily exchange and return products, shop conveniently and protection of personal data as most important, while they rate searching for shopping experiences, trying new technologies and having contact to other people as least important. Regarding channel performance, the offline channel performs strongest in touching and feeling products and advise by sales staff, while the online channel performs strongest for shopping independently of time and place. Comparing German and Polish customers, Polish customers rate most motives as significantly more important. German customers only rate maintaining shopping habits, shopping at known retailer, shopping at trusted retailer and supporting physical stores as more important.

Contributions

This research contributes to the literature, as it provides a detailed catalogue of shopping motives related to information search, shopping outcome, shopping process, habits versus new experiences and moral issues. Previous research often focused on general motive factors (Babin *et al.*, 1994) or selected specific motives (e.g., Kleinlercher *et al.* 2020; Flavián *et al.* 2019, 2020). This research further contributes by comparing the importance of different motives and the performance of channels in addressing them. Here, it is interesting that the most important motives refer the after sales stage (returns and exchanges) and the shopping process (convenience, data protection) and not to price or assortment. It is further interesting that the three least important motives are hedonic (shopping experiences, trying new technologies, contact to other people). The comparison between German and Polish customers further contributes to the international retailing literature.

Practical implications

Results provide starting points for channel specific marketing strategies. As a basic requirement, channels must firstly focus on motives that customers consider as important and on which the channel performs well as a strategic advantage. However, channels may also consider to increase the perceived importance of currently less important motives on which they perform well. They may also attract customers from competing channels by increasing their performance on important motives, where they currently have a disadvantage. Results

can also help to differentiate strategies between national markets, for example by exploiting the higher need to maintain shopping habits in markets with established and grown retail structures.

Research limitations and outlook

This study focuses on shopping motives and the performance of channels, but it does not consider actual channel choice as a dependent variable. Future research should analyse more deeply how the different motives influence actual channel choice and cross-channel behaviour. Our study also focused on two selected countries with different retail structures. It would be interesting to integrate further countries with different emphasis on the shopping experience. Future research should also consider how shopping motives differ between customer segments within national markets. In particular age might have an impact on shopping motives and channel choice. Also analysing differences in shopping motives between product groups is an avenue for future research. Future longitudinal studies may analyse how the performance of channels in addressing particular shopping motives evolves over time. For example, the performance of the online channel in delivery time has increased in recent years.

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Innovation and technology in the retail environment

THE EFFECT OF CHATBOT ON RETAILER ENGAGEMENT: THE MODERATING ROLE OF PRODUCT TYPE

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Keywords

Chatbot, online retailer, search goods, experience goods, engagement, cognitive control, behavioral control.

Introduction

Past research highlighted the potential for chatbots to facilitate relationship development and stressed the importance of anthropomorphic features in creating chatbots that users perceive as social beings (Araujo, 2018; Barney *et al.*, 2022; Dinh and Park, 2023; Go and Sundar, 2019; Pentina *et al.*, 2023; Roy and Naidoo, 2021; Schuetzler *et al.*, 2020). Research has also compared the effectiveness of human advisors to AI algorithms in providing recommendations to consumers (Hertz and Wiese, 2019; Longoni and Cian, 2022) as well as their potential to transform the shopping experience to be more efficient (Hoyer et al., 2020). However, there is still a lack of understanding regarding their impacts on consumer behavior, such as customer engagement with retailers (Moriuchi et al., 2021; Zeng et al., 2023).

Previous research has focused on the impact of message type and consumer control on chatbot effectiveness (Whang et al., 2022), nevertheless knowing the effectiveness and acceptance does not necessarily lead to improved customer experience, while Fan et al. (2020) addressed the impact of the quality of intelligent experience on smart retail engagement but did not focus specifically on chatbots.

Our study also sought to differentiate from the studies by Zhu et al. (2022) and Xie et al. (2022) by examining the factors that influence the presence and absence of chatbots on customer engagement with the retailer rather than algorithm-recommended products or the influence of the certainty of needs on chatbots acceptance. Past studies have primarily focused on brand engagement in social media (Hollebeek et al., 2014), customer engagement in CRM (Hollebeek *et al.,* 2019), and the conceptual domain of customer engagement (Brodie *et al.*, 2011), the present study fills a gap by focusing on the effect of consumer engagement with retailers in the presence of chatbots, which has important implications for retailers seeking to provide effective customer service and enhance online retail experience among customers.

Consumer-retailer engagement is crucial to understand as it sheds light on the factors that influence consumers' behaviors and decisions related to shopping in an online retailer. This type of engagement involves the emotional, cognitive, and behavioral dimensions that consumers form with a retailer. Therefore, it is important to investigate how the presence of a chatbot can contribute to consumer engagement with the retailer.

Purpose

This study aims to examine the impact of chatbots on customer engagement with retailers. While previous research has highlighted the potential benefits of chatbots, there is still a lack of understanding regarding their influence on consumer behavior, specifically in terms of customer engagement. This study differentiates itself by focusing on the factors that influence customer engagement with retailers in the presence of chatbots, rather than focusing solely on product recommendations or chatbot acceptance. Utilizing Chat GPT, an advanced natural language processing technology, the study aims to provide a nuanced understanding of how chatbots influence customer engagement. The findings will provide valuable insights for retailers seeking to enhance customer service and improve the online retail experience.

Conceptual framework

The conceptual framework of this study examines the relationship between an AI chatbot on retailer engagement (cognitive, affective, and behavioral engagement). The AI chatbot is the variable of interest that is manipulated in the study. Product type (search vs experience) serves as a moderator, potentially influencing the relationship between the AI chatbot and retailer engagement. Cognitive and behavioral control act as mediators, explaining how the AI chatbot and product type impact retailer engagement. Retailer engagement encompasses cognitive, affective, and behavioral dimensions and represents the desired outcome. In summary, the study explores how the presence of AI Chatbots influences consumers' engagement with the retailer. It takes into account the difficulty of evaluating product attributes before purchase, and it is predicted that the effect will differ between search and experience products; with stronger effects will be observed for experience goods than for search goods. Furthermore, cognitive and behavioral control will mediate the effect of AI Chatbots on customers' engagement.

dimensions and the hypotheses are:

H1: AI Chatbot will increase consumer engagement (affective, cognitive, and behavioral engagement)

H2: Consumers' control (cognitive and behavioral control) mediates the effect of AI Chatbots on customers engagement (affective, cognitive, and behavioral engagement)

H3: The type of product (search vs. experience) will moderate the mediations of cognitive and behavioral control on the effect of AI Chatbot on customer engagement (affective, cognitive, and behavioral engagement) such that the effect is stronger for experience goods than for search goods

Methodology

Study 1: To examine the impact of chatbots on consumer engagement and investigate the mediating role of consumer control.

Method: Online experiment with 246 participants assigned to either an AI chatbot presence or absence condition. Participants were asked to imagine shopping for a pair of trousers on an online retailer named INSPIRATION, with chatbot or non-chatbot conditions. Then, cognitive control was measured, followed by behavioral control (Compeau and Higgins, 1995; McMillan and Hwang, 2002), consumers' affective engagement, cognitive engagement, and behavioral engagement (Hollebeek et al., 2014).

Study 2: To examine the moderating role of product type (search vs. experience) on the consumer control effect of AI chatbots on engagement.

Method: Online experiment with 243 participants. We conducted a 2 (AI chatbot: present vs. absent) x 2 (Product type: search good (book) vs. experience good (perfume)) between-subjects experiment.

In the scenario, respondents were asked to envision themselves shopping for a book (search goods) or a perfume (experience goods) for a special occasion at a retailer called INSPIRATION. Girard et al. (2003) and Korgaonkar et al. (2006) classified search products as those that can be evaluated beforehand, like books. They can be described, evaluated based on features or reviews. On the other hand, perfume is an experience product because its sensory nature makes it hard for consumers to fully evaluate without trying it first.

Participants in the chatbot condition saw a conversation where chatbot provided them with additional information, while in the non-Chatbot condition, they only saw the website of the retailer. Then, affective engagement, cognitive engagement, and behavioral engagement (Hollebeek et al., 2014), followed by measuring cognitive control and behavioral control (Compeau and Higgins, 1995; McMillan and Hwang, 2002).

Findings

Based on the finding of Study 1, we demonstrated that the use of AI chatbots in customer service can enhance customers' engagement with retailers. One reason for this is that chatbots provide customers with relevant information and assistance, which can help them comprehend

a situation in a more foreseeable and anticipated manner. When customers perceive a situation as more manageable, it enhances their engagement with the retailer as their perception of cognitive control is increased. AI chatbots simplify the decision-making process and allow customers to feel more confident during their shopping journey and show higher engagement with the retailer, as compared to situations where chatbots are not present.

After that, in Study 2, we also demonstrate that the process depends on the type of product being considered. The effect of the presence of a chatbot on consumer engagement through cognitive and behavioral control is stronger for experience goods than for search goods. The product information for search products is typically standardized, making it easier to communicate effectively through the internet. In contrast, experience products require a broader range of information and more extensive research, and they require trial or even consumption to make informed purchasing decisions. As a result, consumers tend to evaluate search products based on their standard features and information. In contrast, experience products require more comprehensive information and exhaustive details that cannot always be easily found on product pages (Huang *et al.*, 2009; Lim *et al.*, 2015; Weathers *et al.*, 2007). Our findings demonstrate that AI chatbots can be particularly beneficial for experience products as consumers need more assistance due to their higher levels of uncertainty. This contrasts with the findings of Zhu et al. (2022), who focused on the role of certainty of needs in consumers' acceptance of AI chatbots. Our results also differ from Xie et al. (2022), who found that people show less aversion to algorithm-recommended search products compared to human-recommended ones.

Contributions

This research makes significant practical and theoretical contributions to the understanding of AI chatbots and their impact on customer engagement. The main findings reveal that AI chatbots influence customer engagement through consumers' cognitive and behavioral controls. The study demonstrates that the use of AI chatbots in customer service enhances customers' engagement with retailers by providing relevant information and assistance, making the situation more manageable and increasing customers' perception of cognitive control. AI chatbots are also effective in assisting consumers in decision-making, simplifying the process, and enhancing customers' self-efficacy. The study further highlights that the effect of AI chatbots on customer engagement varies depending on the type of product being considered. The presence of chatbots has a stronger impact on customer engagement for experience products compared to search products, reflecting the different information needs and evaluation processes associated with these product types. The paper's value lies in providing insights for retailers seeking to optimize their use of AI chatbots to enhance customer engagement.

By understanding the underlying mechanisms and the influence of product types, retailers can strategically implement AI chatbots to meet customers' specific needs and enhance their cognitive, affective, and behavioral engagement with the retailer. This research also contributes to resolving inconsistencies in consumers' acceptance of AI chatbots by highlighting the weaker effect for search products.

Practical implications

First, it is becoming increasingly important for retailers to provide a positive and engaging online shopping experience to remain competitive. Second, chatbots are becoming more common in online retail, and retailers are investing significant resources into developing effective chatbot systems. Therefore, it is crucial to understand how chatbots impact customer engagement and how they can design effective chatbot systems to enhance the customer experience. Third, effective chatbot systems can improve customer satisfaction, reduce the workload of customer service representatives, and potentially will lead to increased sales for retailers (Aarthi et al., 2020; Rese et al., 2020; Soares et al., 2022)

This study also provides guidance for companies on how to implement AI chatbots selectively by disentangling needs for assistance across different product classifications (Klein, 1998; Nelson, 1974). By carefully considering the nature of their products and the level of assistance customers require, companies can make informed decisions about investing in chatbots and optimize their use to maximize the benefits for both the company and the customer.

In the case of a company with a product portfolio dominantly comprising search products, customers may not require extensive assistance from chatbots, and it may be more effective for retailers to focus on making product descriptions clear and thoroughly informing customers. In such cases, investing in chatbots may not be a wise decision and could be seen as a misallocation of resources (Filipczyk et al., 2016). On the other hand, for experience products, investing in chatbots can be a valuable investment as customers may require more assistance in making purchasing decisions (Bei *et al.*, 2004; Chaudhuri, 1998; Girard, 2005). Therefore, companies should carefully evaluate the nature of their products and the level of assistance customers require before investing in chatbots.

Research limitations

The limitation of this study is the use of a fictitious retail website, which may not accurately reflect real-world scenarios. Future studies could examine other types of online retailers or use real retailer websites and chatbots to produce more realistic, externally valid contexts. Additionally, while the online questionnaire platform (Prolific) was used to select the entire sample systematically, it is possible that the participants may not accurately represent typical online retailer shoppers.

Despite these limitations, the study makes important contributions to the literature by highlighting the impact of AI chatbots on customer engagement in online retail settings depending on the type of product being evaluated.

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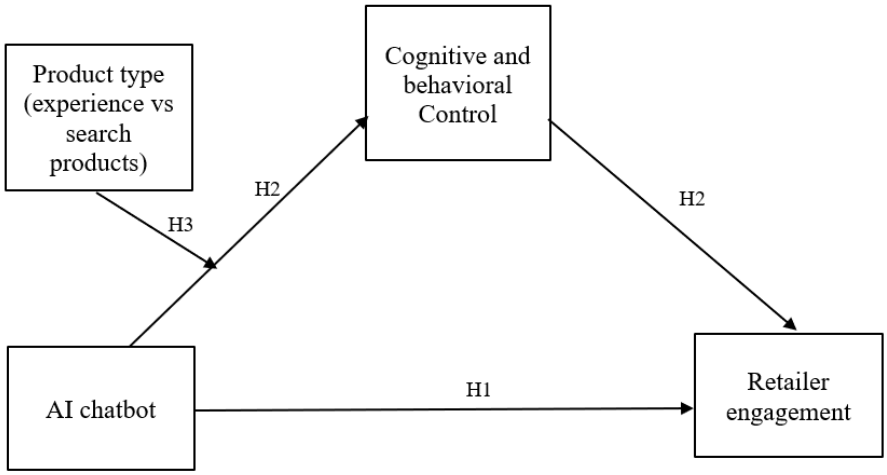
Keywords

Chatbot, online retailer, search goods, experience goods, engagement, cognitive control, behavioral control.

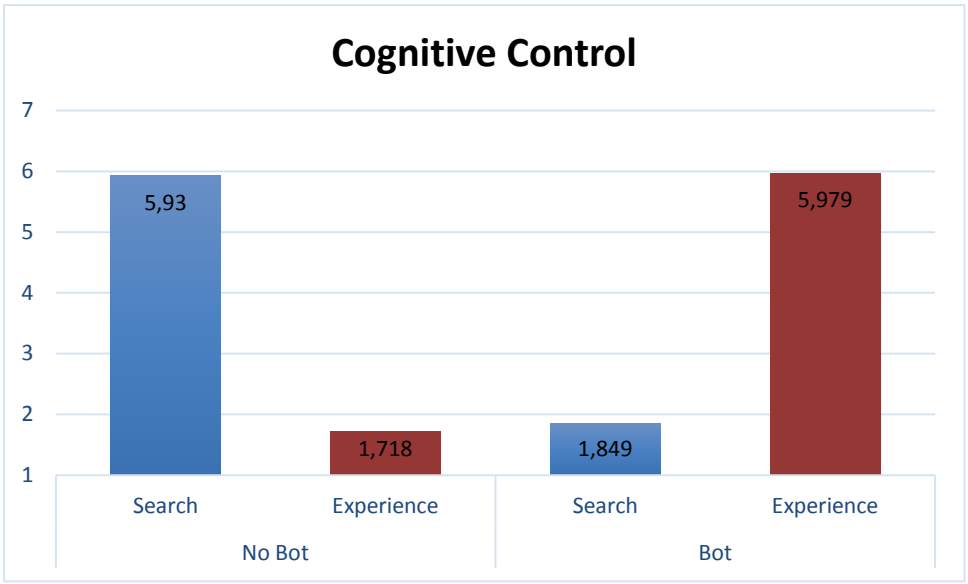
Appendix

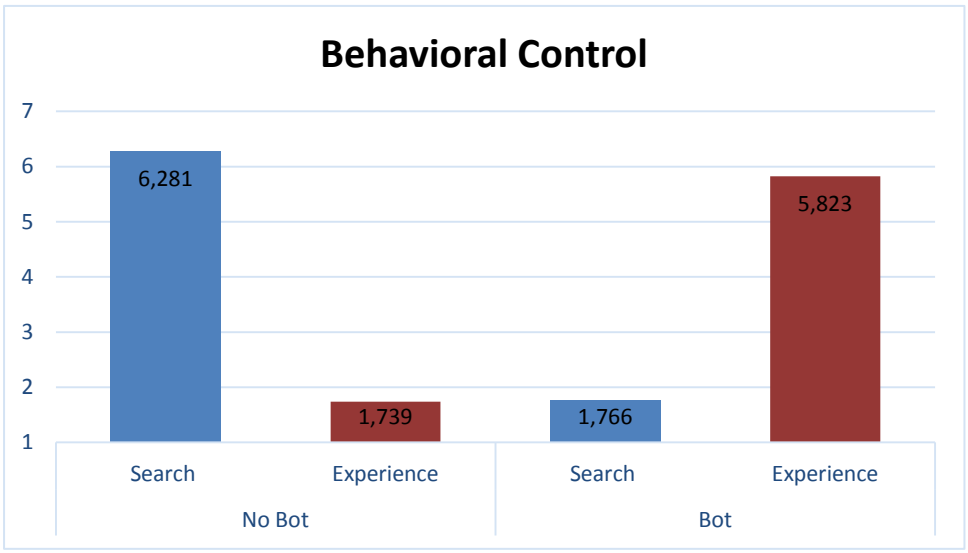
Figure 1: conceptual framework



The type of product (search vs. experience) moderates the effect of AI Chatbot on consumers' cognitive control and behavioral control. So, we found support that the type of product

(search vs. experience) moderates the mediations of cognitive and behavioral control on the effect of AI Chatbots on customer engagement with the retailer.





THE SUPERMARKET OF THE FUTURE
A DIGITAL EXHIBITION AND MULTISENSORY SHOPPING EXPERIENCE

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Key words - touch-point experiences, store of the future, design science research, brick and mortar digitalization, future shopping behavior

Introduction

Digital transformation or the integration of new digital technologies is already having a significant impact on organizations (Kraus et al., 2021). It has also become an important topic for retailers, including those with physical shopping spaces, such as supermarkets. Digitalization can be found at nearly all levels of supermarket operations ranging from exploration of big data to obtain customer insights (Kahn, Inman & Verhoef, 2018), smart shopping carts to enable self-check-outs (Van Ittersum et al. 2013), or smart shelf technologies to optimize in-store marketing (Guha et al., 2021). Additionally, on-line retailers have entered the grocery market leading some researchers to believe that the days of brick-and-mortar supermarkets could be numbered (Ives, Cossick & Adams, 2019).

However, digital-native online retailers such as Amazon just recently opened stationary grocery stores, presumably because grocery products are 'deep' products which are rich in material properties that can only be experienced by direct physical inspection (McCabe & Nowlis, 2003). Moreover, " … physical stores can enhance customer profitability by providing the physical engagement that customers value when purchasing 'deep' products ..." (Zhang, Chang & Neslin, 2022). Lastly, grocery shopping is often described as a multisensory experience (Spence et al., 2014) so sensory experiences can help consumers to fulfill their need for stimulation (Baumgartner & Steenkamp, 1996; Peck & Childers 2003). It is therefore likely that physical spaces will remain the primary format for supermarkets, but forms of digital transformation will be integrated because

digitalization offers great potential for offline retailers including grocery retailers (Guha et al., 2021).

Purpose

In this paper, the authors present the development of a prototypical design of the supermarket of the future, termed "A Digital Exhibition and Multisensory Shopping Experience", combining the best of both worlds, that is, the multi-sensorial experience of the offline with the access, interactivity and convenience of the digitalized on-line. The converging physical and virtual retail spaces create new and modified touchpoint experiences which attract existing and potential customers and stimulate digital and brick and mortar shopping at the same time.

Conceptual framework

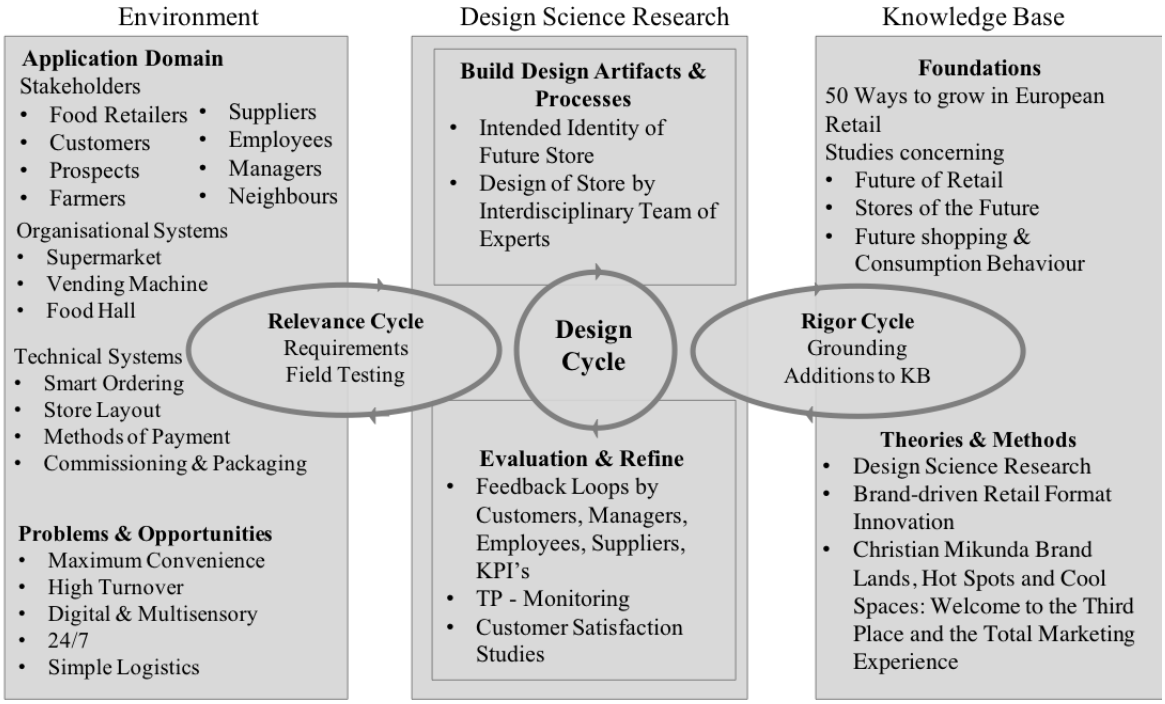
In terms of future supermarket designs, there is a need to improve the physical retail environment by adding digital elements to the store, but in a way that produced positive outcomes. The use of digital devices, such as digital screens, in bricks-and-mortar supermarkets can decrease shoppers' physical interaction with the retail environment by narrowing attention (Streicher, Estes, and Büttner, 2021). Such negative effects from digitalization can only be prevented if researchers adopt a holistic view on the customer journey, in-store experience and various interactions of touchpoints (Lemon & Verhoef, 2016; Krasonikolakis & Vrontis, 2022).

We therefore suggest that the introduction of digital elements into bricks-and-mortar supermarkets requires an holistic approach in order to complement physical shopping experiences rather than reducing them. As senses are the primary vehicles to link marketing activities to consumer responses (Achrol and Kotler, 2012), digital touchpoints in supermarkets should support physical shopping experiences (e.g. convenience), rather than imposing technological learning costs for shoppers. In the remainder of the article, we first describe how such a holistic digital-multisensory approach can be based on identifying future expectations of consumers, shopping trends and managerial problems and requirements. Then we consider how our approach can be implemented to transform a supermarket of the future by a team of interdisciplinary experts.

Design/methodology/approach

Following the design science research approach suggested by Hevner et al., (2004) innovative processes to resolve real-world problems can be developed by combining three interrelated cycles; the relevance cycle, the design cycle and the rigor cycle (see Figure 1). In this model the design cycle represents the generation of alternatives that are evaluated by field testing against the requirements of the management until a satisfactory design is achieved. The relevance cycle assures a close fit between managerial problems and the new design. The rigor cycle firmly bases all steps of development on knowledge, methods, and empirical evidence available at the time (Hevner & Chatterjee, 2010).

Figure 1. Design Science Research Cycles for the Supermarket of the Future



Source: Adapted from Hevner et al. 2004

Hence, the development of a supermarket of the future starts with a detailed description of the organisational problems at hand. The 'Environment Box' in Figure 1 highlights the requirements of the relevance cycle in terms of the application domain and perceived problems and opportunities. The application domain consists of various stakeholders, organisational and technical systems. The problems and opportunities section lists the managerial requirements to achive maximum convenience, while balancing the integration of digitalisation and multisensory brick and mortar experiences to simplify supportive logistics.

In rigor cycle we searched for suggestions, already existing in the literature, to resolve problems. Here, we focus on studies concerning the future of retail, such as the fifty poorly met shopper needs (Coca-Cola Retailing Research Council Europe and Roland Berger Strategy Consultants Ltd., 2012), and prior work on stores of the future (Alexander & Blazquez, 2020; Jenkins et al., 2020). Additionally, we integrate prior research on the future of retailing from a customer perspective (Grewal et al., 2017 2020) and theories (Hevner et al., 2004) and methods (Botschen & Wegerer, 2017) which support and facilitate innovations in retail.

Based on the identified academic knowledge and empirical evidence that can potentially solve managerial problems, an interdisciplinary team of experts develop the first version of the prototypical supermarket of the future. Figure 2 in the findings section presents the prototypical supermarket of the future called 'A Digital Exhibition and Multisensory Shopping Experience'.

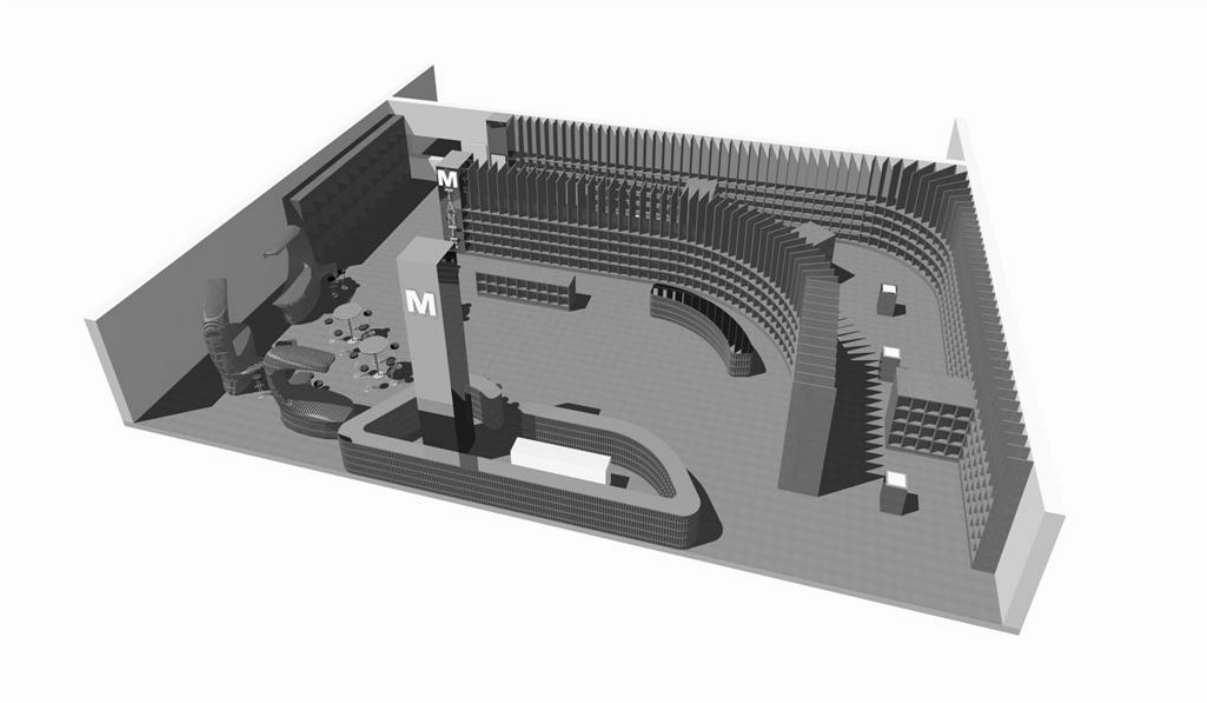
Then, the designed prototypical model is rigorously evaluated by testing its usefulness and becomes refined based on empirical evidence and learning. The newly acquired knowledge allows further improvement of the store followed by new rounds of application, evaluation, learning, and improvement. Finally, a newly designed store is in place that reaches the intended goal of integrating digital elements within a supermarket (March & Storey, 2008). The new design is based on relevant consumer behaviour studies

to uncover existing and potential expectations concerning future off- and on-line food shopping (Alexander & Cano, 2020; Alexander & Alvarado, 2017). An interdiscplinary team of experts translates the identified pool of expectations into the design of the first version of a supermarket of the future.

Findings

The literature review provides a rich array of customer expectations towards future on and off-line shopping which then becomes translated into a supermarket of the future. The latter combines a 24/7 hours Hi-Tech Digital Exhibition Store, a huge type of easily accessible digital vending machine, with a modern version of a multisensory market place. Figure 2 shows a drawing of the first prototypical version of a supermarket of the future, integrating the two spaces.

Figure 2. Prototyp of a Supermarket of the Future



The ‘Vending Machine’ at the right side of the drawing can be entered via a membership card. Membership can be achieved any time anywhere via smartphone. In this area, which works like an exhibition, up to 1000 top selling products, typically the leader of a particular product category (Sorensen, 2016), are displayed behind glass. Shoppers select their products through touching, via smart phone or tablet. Before sending their final order, shoppers are asked to check their order list for completeness. The order list is then automatically packed by robots in the warehouse behind or underneath the store. The newest packaging robots can select and pack up to 50 stock keeping units in a store room of a thousand products in 2 minutes. The packed products are ready for pick-up in appropriate box sizes in numbered compartments after the invoiced amount of money is automatically taken from the shopper’s bank account. The shopper can then take the packed products immediately or leave them in the compartment, typically against a small fee depending on the duration, and pick them up later. Ideally the shopper enters the multisensory market place before shopping in the digitalized exhibition zone, but can browse without shopping.

This area works like a fresh farmers market with culinary delicacies, like a bakery,

coffee house, wine tasting, butcher, fresh fish and seafood, stands with new food products, regional and local snacks, guest beer of the month etc. People can stroll around, taste or join other guests at big tables. In this area customers can pay cash or by credit card directly at the chosen counter. The multisensory market opens at 6.00 am and closes at 10 pm.

Original/value

To our knowledge this paper is the first which tries to design a future store in a holistic manner, based on identified customer expectations, future shopping trends and managerial requirements.

Practical implications

The Hevner et al., (2004) design science approach is driven by requirements and problem identifications of executives and managers. The relevance cycle consists of several rounds of application, evaluation, learning, and improvement until a designed store is in place that reaches the intended goal in a satisfactory manner.

Social implications

The multisensory world represents an importamt element to remain in personal contact and interaction with other customers, friends, farmers and regional and local manufacturers.

Research limitations and outlook

This study focused on the development of a store in food retailing. From the authors point of view the applied design science approach (Hevner et al., 2004) can be transferred into other areas of retailing although food retailing seems to be explicitly suited to combine a digitalized automated world with a multisensory experience. As this paper is conceptual rather than empirical, case-study data is necessary in order to validate the applicability of the proposed framework.

Key words - touch-point experiences, store of the future, design science research, brick and mortar digitalization, future shopping behaviour

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EXPLORING THE PERCEPTIONS OF THE ROLES OF THE CONSUMER AND THE SALESPERSON IN A PHYGITAL STORE

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Keywords

Phygital, Interactive technologies, interactive kiosk, consumer role, salesperson role,

Purpose

Retail is one of the sectors that have undergone colossal changes in recent years, particularly with the advent of new technologies. The digitalisation of physical points of sale is therefore becoming a matter of course for retailers who must adapt to a rapidly changing sector. The shopping experience has not escaped the effects of digital and has been completely revolutionised by digital technologies (Grewal et al., 2017). A physical store has always been and remains the main point of contact with the consumer as it is the only medium that offers the instant gratification of buying a product or service (Blázquez 2014), hence the need to digitalise it. As confirmed by numerous researches, in-store technologies help to increase shop attractiveness, pleasure, satisfaction and purchase intention, as well as stimulate customer relationships and enrich the experience (Alexander and Kent, 2020; Mosquera et al., 2018). Implementing technologies in-store is becoming increasingly important to improve the customer experience (Alexander and Kent, 2020). The question of the role of digital in-store has attracted the interest of several researchers recently, and has been the subject of many works (Alexander and Kent, 2020; Foroudi et al., 2018; Lao and Vlad, 2018; Lecointre-Erickson et al. 2018; Poncin et al., 2017; Rivet et al., 2018). The aim is to understand the influence of technology use on the experience. The interactive kiosk is one of the technologies that has seen significant success in the aftermath of the health crisis. The interactive screen market is expected to exceed $20 billion in sales over the next five years (Global Market

Insights, 2019[1]). Moreover, it is also one of the most popular in-store tools for consumers. Already in 2016, 69% of consumers were more likely to shop in a store equipped with interactive touch terminals (InRetail, 2016)[2]. This technology promotes potential disintermediation by allowing consumers to produce a service independently of direct employee involvement (Meuter et al., 2000). Therefore, it frees the consumer from his traditional role as a traditional consumer to a consumer who takes care of part or all of his purchasing act himself. Much marketing research has focused on the study of this technology and highlighted its impact on the shopping experience and value creation (Lao and Vlad, 2018; Lao et al., 2021; Vakulenko et al., 2018). However, little is known about how consumers perceive their role and that of the salesperson in a phygital store? Our research contributes to filling this gap and tries to provide some answers to the question: How do consumers perceive their role and that of the salesperson when using interactive technology in a phygital store?

Design/methodology/approach

In order to meet the objective of our research, a qualitative in-depth interview study was carried out with 32 individuals, 14 women and 18 men, aged between 21 and 60 years (See appendix 1 for the profile of respondents)**.** Diversity of profiles was sought in order to generate a maximum of variation in the responses. These respondents were recruited from close friends or by convenience via the author's personal networks. The interviews were interrupted as soon as semantic saturation was reached, i.e. when the information collected became redundant (Patton, 2014). Each interview was structured around three parts: (1) the respondent introduced him/herself, described his/her last purchase in a shop (apart from food purchases) and was also asked to describe the technologies he/she knew and/or used; (2) the interviewee was asked to react to a photograph (appendix 2) and a scenario in which he/she chooses a pair of sports shoes using the interactive technology alone and (3) a similar situation in which he/she uses the interactive technology with the intervention and help of the sales assistant (appendix 3). For each situation chosen, the respondent had to imagine his contact with the terminal, his perception of this contact, what he likes or does not like about this contact, etc. These projective techniques[3] allow for the exploration of feelings, attitudes and perceptions of individuals (Pich and Dian, 2015). The two scenarios chosen allow for the exploration of two situations from the continuum of Ahearne and Rapp (2010). The sole contact with the salesperson (without technology) was excluded as it involves interaction with the salesperson alone - without interactivity with technology. The choice of sports shoes is explained by the fact that it is a product with a growing consumption (Statista, 2020[4]). The global athletic footwear market is expected to be worth over $93 billion by 2025. It is also a product that is popular with consumers of both sexes and all ages. Finally, unlike brown or white goods where the intervention of the salesperson is generally very important, and consumer products where the purchase is made independently, the purchase of sports shoes can very well fall into either of these two patterns. The interviews, which lasted an average of

[1] https://www.avem-groupe.com/012021-bornes-digitales-kiosks/

We used these projective techniques because the data collection was conducted during the covid crisis, when the shops were closed. To extend the results of the research, we would like to carry out a quantitative study to investigate the impact of the new roles of the consumer and the salesperson on the relationship between them.

[4] Statista 2020 https://fr.statista.com/statistiques/582467/valeur-previsionnelle-marche-chaussures-sport-monde/

one hour, took place at the respondents' homes or, for some, at a distance via zoom. They were recorded and transcribed in full. The data collected was subjected to a double analysis, a manual content analysis (Miles and Hurberman, 1994) as well as an analysis using the NVIVO software. The researchers first conducted separate in-depth readings and vertical analysis of the 32 interviews. Next, a horizontal analysis was used to sort, group and categorise the data into themes (Allard-Poesi, 2003). Finally, the researchers compared their observations, interpretations and coding while ensuring internal consistency and seeking agreement through discussion. Throughout the analysis, back and forth with the theoretical reference framework of interactivity was carried out.

Findings

The analysis of our data has identified that, on the one hand, the role of the consumer within a phygital store can be perceived as active (producer) or passive (observer). On the other hand, the salesperson is perceived as an actor who takes on new roles such as coaching and training in the use of interactive technologies.

Consumer roles

Our interviewees stated that the more autonomous they are when using the interactive kiosk, the more active they perceive their role to be. In other words, the autonomous use of the kiosk makes it possible to move from a **classic role** of buying and consuming a ready-made product to a **more active role** in which the consumer invests time and effort: "*You go from a classic consumer who does nothing, who is blind, who comes and takes the pair of shoes and leaves to go home, to a consumer who is there, who is present, who gives a little of his time, who makes designs too, it's really not bad*" (Alexandra, 22).

The analysis of the speeches collected also shows that some respondents feel that making an interactive technology available to them is perceived as giving them a **new role and additional tasks**. They see themselves as doing a job for the salesperson: "*Well, I'll feel like I'm **replacing the salesperson**. That they are just cutting staff and **making me do the job instead** and when I don't get a return, how should I say, a human return from ... to my request*" (Laurence, 50). Furthermore, while many interviewees prefer to be alone when using the kiosk, others appreciate it when they are content with the role of the **observant consumer**, who does not want to have control over the machine, and who wants to **be served** because they find it fun. These consumers find that using the machine is a task for the sales assistant, and it is up to him to handle and control it: "*For me it's part of the pleasure when I go to a restaurant to be served, I like it...or if I go to a shop I like to be served by the sales assistant because I feel it's their role to do so, quite simply...**I prefer to be served***" (Amandine, 30).

The roles of the consumer do not seem to be the only ones to have changed as a result of interactivity with an in-store terminal.

The results show that the consumer's refusal to play an active role can affect consumers of all ages. Indeed, the senior interviewees tend to have a negative perception of the active role that the shop contributes to them through the implementation of interactive technologies, they perceive it as a cognitive load and a difficult task to accomplish, this may be due in particular to psychological factors such as a low degree of familiarity with the new technologies. However, this reluctance to allow the consumer to play an active role in the use of technology in the shop may also concern young consumers who are familiar with the new technologies,

such as Amandine (30 years), who prefers to take on the role of observer when the salesperson uses the technology.

Salesperson role

Our discourse analyses reveal that the use of interactive technologies also influences the role of the sales assistant. Indeed, the analysis shows that in addition to his role as a**dvisor**, the sales assistant can also become a **guide and trainer**, who is available to consumers who are unable to use the interactive terminal on their own: "*If there is someone who does not know how to use it, he goes directly to the staff who work there*" (Antoine, 26).

In addition to accompanying consumers who are unfamiliar with the technology, the sales assistant may also have a role to play in the event of a bug or technical problem: "*The sales assistant always has that role, to accompany people who are not comfortable with the technology, to give information if there are too many people on the terminal, or if the terminal does not work"* (Juliette, 26). These new roles seem to displease some consumers who find it difficult to see the retailer assigning new tasks to the sales assistant other than selling and giving advice. These interviewees prefer the sales assistant to keep his or her traditional role: "*There is no longer any talk of a sales assistant role, but more of a role as a trainer in the use of the terminal, which I do not like, because I am still convinced that a sales assistant is a sales assistant*" (Philipe, 58).

Furthermore, other interviewees consider that, when the store assigns them an active role, they are faced with an **exhausting cognitive overload** which forces them to adapt to the different technologies. This perception is due in particular to a feeling of low familiarity with the new technologies: "*I could take 10 minutes to handle it because we don't know, we don't know all the products. You can't come up with an interface like that and then say, I know it by heart, it's not possible. People will have to be trained. Or we'll have to make terminals ... all the same, all the same in all the shops, the same way of looking for things and everything. But if everyone has their own interface, it's going to be panic. People don't have to know how each one works. In any case, I'm tired of it, I don't like it at all, it takes up my head*" (Robert, 60)

Original/value

This research contributes to a series of theoretical works that have focused on exploring the role of the salesperson in the digital era (Collin-Lachaud and Vanheems, 2016; Dietrich and Masson, 2021; Dong et al., 2015; Geiger and Kelly, 2014; Rivet et al., 2018; Rodriguez et al., 2014; Vanheems, 2018). Our research has the interest of confronting the roles of the two actors (consumer and salesperson) in a phygital context. Indeed, our interviews show that the consumer perceives his role as active when he invests his effort and produces a service alone via a technology or when he co-produces it with a salesperson. The consumer feels empowered (Ahearne et al., 2022; Dekhili and Hallem, 2016, 2020; Mishra et al., 2021) and thus becomes an active user of technology rather than a passive receiver of information (Dolan et al., 2016). While this research has highlighted the active role of the consumer when using the technology alone, our qualitative studies confirm that this role can be perceived as passive especially when the salesperson intervenes in the use of the interactive technology. This passive role seems to be appreciated by some consumers and not by others. Some interviewees said that they would prefer to be served by the salesperson and just observe him/her using the technology. While other consumers dislike this situation, stating that they lose autonomy when not handling the technology, which can even deteriorate their shopping

experience. Furthermore, in addition to the role of the consumer, the role of the salesperson also seems to change in a phygital context. Our interviewees point out that, in addition to advice, the salesperson is given new tasks such as training in the use of the technology, providing support during use or solving technical problems (Belghiti et al., 2017; Larivière et al., 2017). In addition, the vendor plays a role of facilitator. According to our interviewees, the role of facilitator refers to making the taking and placing of orders via the kiosk easier thanks to the skills and expertise that the sales assistant acquires through the use of interactive technologies. This role has been mentioned in the literature and refers to intervening in case of user difficulty in order to help the consumer and the interactive technology to accomplish their tasks (Larivière et al., 2017). Our research therefore supports this work and confirms the idea that the salesperson plays a facilitator role in a phygital shop.

Research limitations and outlook

This study is not without its limitations. First, the people questioned were only consumers, it would be worthwhile carrying out additional interviews with salespeople to obtain more detailed results on their perceived role during use of interactive technologies in store. Second, we used projective interviews to interview consumers, so there may be a memory bias. It would be interesting to interview consumers immediately after using their interactive technology. Third, as the current study is qualitative in nature, a quantitative study would be fruitful for identifying the roles gratifications identified in this research.

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Appendices

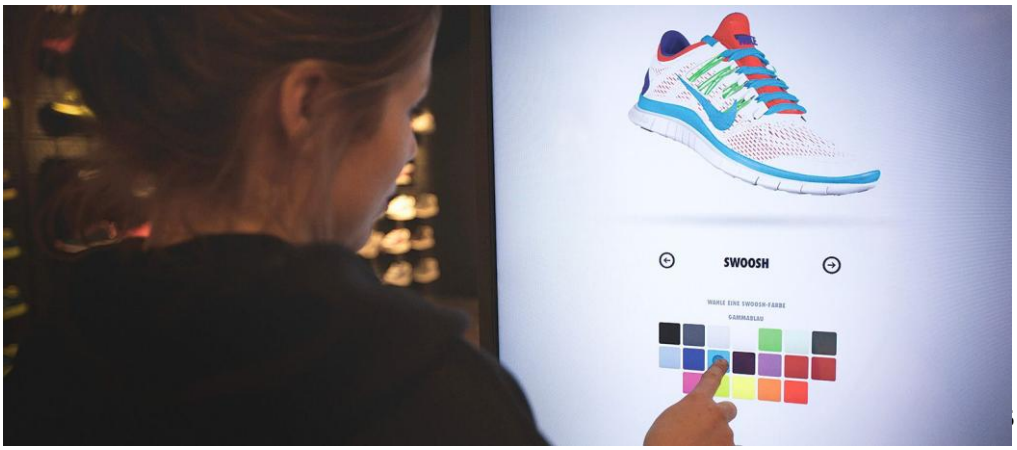
Appendix 1

Respondent	***Gender***	***Profession***	***Marital status***	***Age***
Alexandra	Woman	Engineer	Single	22 years old
Alice	Woman	Communicator in a travel agency	Single	28 years old
Amandine	Woman	English teacher	Single	30 years old
Antoine	Man	Engineer	Single	26 years old
Claire	Woman	Retired	Married	70 years old
Coline	Woman	Special needs Assistant	Married	44 years old
Damien	Man	Chief Accountant	Divorced	58 years old
Dorothée	Woman	Customer advisor in a bank	Single	28 years old
Émilie	Woman	Salesperson	Divorced	56 years old
Émilien	Man	Computer Engineer	Single	29 years old
Emma	Woman	Student	Married	22 years old
Emmanuel	Man	Teacher	Married	60 years old
Frédéric	Man	Marketing Manager	Single	28 years old
Gaspard	Man	Student	Single	20 years old
Guillaume	Man	Production Manager	Married	45 years

				old
Iris	Woman	Pharmacist	Married	49 years old
Jeanne	Woman	Student	Single	21 years old
Joëlle	Woman	Teacher	Married	58 years old
Juliette	Woman	PhD Student	Married	26 years old
Kevin	Man	IT Project Manager	Single	29 years old
Laurence	Woman	Administrative Assistant	Married	50 years old
Lauryne	Woman	Sales Assistant	Single	19 years old
Léo	Man	Sales consultant	Single	20 years old
Malo	Man	Student	Single	21 years old
Marius	Man	Student	Single	18 years old
Monica	Woman	Civil servant	Married	20 years old
Nadia	Woman	Computer Engineer	Divorced	60 years old
Nathan	Man	Computer scientist	Single	28 years old
Noa	Man	Chimney fitter	Married	30 years old
Patrick	Man			46 years old
Philippe	Man	Computer scientist	Married	58 years old
Robert	Man	Automotive engineer	Married	60 years old
Robin	Man	Teacher	Single	39 years old
Samia	Woman	Teacher	Single	20 years old
Sandrine	Woman	Executive Assistant	Married	48 years old

Sophia	Woman	Student	Single	20 years old
Stéphanie	Woman	Optician	Single	18 years old
Thibault	Man	Salesperson	Married	20 years old
Yannick	Man	Student	Single	20 years old
Yvonne	Woman	Alternating Student	Single	51 years old

Appendix 2



Appendix 3

[5] https://www.lookforward-blog.com/la-strategie-in-store-de-nike/

6

[6] https://www.digilor.fr/retail-merchandising-passe-mode-digital/

MORE THAN CLICKS AND BRICKS: CONSUMER ORIENTED VALUE THROUGH PHYGITALISATION

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Keywords
Phygital, omnichannel, retail, experiential

Introduction

As we emerge from the pandemic, technology is increasingly being used to supply services, and to enhance the customer experience, with new technologies including AR (Augmented Reality)/ VR (Virtual Reality) and robotics introduced to retail operations. Such technologies can improve product attachment levels (Johnson & Barlow 2021), influence perceptions of brand value (Moravcikova & Kliestikova 2017), levels of consumer trust (Purcarea 2018) and improve personalization and CRM (Shankar 2018). ONS (Office for National Statistics) data shows that consumers are re-engaging with the place of service delivery, as online sales have fallen to their lowest level since the pandemic began at 25.9% of total retail sales versus a high of 37.8% in January 2021. Customers crave the physical environment as it fulfils their need for an emotional experience (Watson *et al* 2007) despite constraints such as location, inventory, and opening hours (Elboudali *et al* 2020). However, customers have also become used to using technology whilst shopping and thus the difference post-covid, is consumers are now increasingly seeking seamless integration between the online and the offline. The physical place and digital innovations then become blended together to create a phygital experience (Mishra et al. 2021), a concept Ballina *et al* (2019:658) suggest depicts the 'symbiosis of physical space and virtual space'.

This model of hybrid shopping is acknowledged by retailers as a way to co-construct new forms of consumption (Collin-Lachaud & Vanheems 2016). The blend of the physical and the digital creates a plethora of touchpoints between the customer and retailer, creating a circular customer journey (Lemon and Verhoef, 2016) however the need for a physical connection requires an omnichannel strategy that consists of a 'multiplicity of successive or simultaneous

micro- experiences of different kinds, both virtual and real' (Collin-Lachaud and Vanheems, 2016: 43).

Purpose

Whilst there have been an increasing number of articles on the phygital offering and its role in the customer experience, Klaus (2021) notes that there is a lack of consensus around the very concept of phygitalisation. Importantly, there is a lack of research around the categorisation of phygital offerings by retailers. In the sector there is a wide range of phygital from the basic e.g., apps to full digital immersion. We therefore seek to address this gap by defining phygital and then establishing the categories of technologies used within retail settings.

Methodology

The research on phygital retail, as this is an emerging area, is limited and there is a lack of consensus on the most effective approach. It is noted that researchers in the phygital space are using thematic analysis as an appropriate methodology e.g. Silva and Cachinho (2021); Mele and Russo-Spena (2021). Thematic analysis is useful to identify both the themes and categories of phygital activities and highlight any key patterns within the retail offerings. It is particularly appropriate when the subject studied is that of a social construction (Amineh and Asl 2015). Fundamentally thematic analysis enables the organisation and sorting of data and the subsequent emergence of data patterns across the data set rather than looking at individual patterns, for example within one interview (Braun and Clarke 2006). The result of such analysis is that the researchers can identify repeated patterns of meaning (Braun and Clarke 2020). Thematic analysis is also flexible (Braun and Clarke 2020) and enabled the researchers to respond to multiple retail categories across the entire data set.

Using domain and taxonomic coding (Saldana 2016) the researchers constructed overall categories and subcategories of the major themes around the most utilized phygital strategies across 5 sectors of food, homeware, beauty, fast and luxury fashion. The researchers categorised immersive and experiential offerings that met the criteria of the physical place and digital innovations blended to create a phygital experience (Mishra et al. 2021) or the "symbiosis of physical space and virtual space" (Ballina *et al* 2019:658). Domain coding is the dominant code that suggests an overall or main category. Taxonomic coding is the emergence of sub-categories that are related to the dominant or overall category (Saldana

2016). This approach was important as phygital is an emerging area of research, it is therefore useful to show the relationships between the categories and the impact on the customer journey (Saldana 2016). Thematic analysis typically does not quantify codes, the focus was on understanding the categorisation of phygital retail rather than counting observations (Glavas *et al.* 2020). Such an approach enabled the researchers to identify the most frequent themes which enabled an understanding of the phenomena of phygitalisation (Pangakar et al. 2022)

Findings

The findings highlight three different levels of phygital activity. These were categorised based on the level of interaction required from the consumer, the form of digital installation and the purpose or aim of the phygital activity. The authors have categorised this activity into levels of utilitarian, experiential and immersive. Each stage offers a more complex integration of brand/consumer interaction as the use shifts from practical, to a mix of entertainment and function to a purely hedonic experience. The findings indicate that the strategies employed by brands were comparable, the use of phygital approaches were similar regardless of brand or functionality of product, highlighting the importance of consumer-oriented design.

Contributions

Importantly, this paper closes a research gap by identifying and then classifying the three levels of phygital application in retail and maps a range of sectors across the utilitarian, immersive and hedonic approaches. The variety of approaches by retailers identifies that there is no single phygital approach rather there are multiple approaches that offer different levels of customer experiences. It also highlights the barriers and challenges faced by retailers as the shift towards digital installations requires new insights into customer preferences and expectations alongside practical, digital requirements.

Practical implications

This research highlights that the adoption of phygitalisation presents challenges for retailers as it requires significant investment in technology, staff training, and infrastructure, and retailers must find a way to balance the benefits of digital technology with the need for human interaction and customer service.

Research limitations and outlook

The limitations of the paper are the lack of consumer insight. Future research could consider the perceptions of consumers engaging in phygital environments and the value they place on such offerings.

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Keywords

Keyword 1, Phygital, Keyword 2 Omnichannel, Keyword 3 Retail, Keyword 4 Experiential

THE FIT BETWEEN INNOVATION MANAGEMENT TECHNIQUES AND DIMENSIONS OF INNOVATION IN RETAILING

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Keywords

innovation management, innovation dimensions, innovation techniques

Introduction

Designing an organization that enables innovation is crucial to the long-term success of any organization. This is especially true in the current market environment, which is characterized by accelerating change due to digitalization, rapid change in consumer taste or a generally volatile and uncertain market environment. To keep up, organizations reach outside of their own boundaries for new knowledge (Chesbrough, 2006) and work in collaborative manners (Kohler, 2016).

While these challenges exist in all industries, the retailing industry is recognized as being particularly competitive and is characterized by very low margins and a high level of competition (Grewal et al., 2017; Jin & Shin, 2020; Pantano et al., 2022; Sorescu et al., 2011). Maintaining a high level of innovation is therefore particularly critical for retailers.

In contrast to manufacturers, retailers innovate differently. While manufacturers focus on the development, production and marketing of products, retailers focus their innovation on keeping the point of sale as attractive as possible and improving the overall customer experience (Hristov & Reynolds, 2015; Reis et al., 2015; Sundström & Radon, 2014; Tether, 2005).

To do this, the use of different innovation management techniques (e.g., retailer-operated incubators, product co-creation, working groups within firms to develop an innovation culture) is a phenomenon that can be observed in practice but that is also dealt with in retail management science (e.g., Patel & Pearce, 2018; Shankar & Shepherd, 2019). However, many retailers do not appear to have a systematic approach to innovation management and operate without identifiable innovation management techniques.

Purpose

The study aims to determine which innovation management technique fits for which dimensions of innovation (i.e., in which functional areas retailers innovate). Understanding this strategic fit between innovation management technique and innovation dimension is important from a theoretical and practical perspective, as it shows how the retailer is able to build dynamic capabilities – meaning its capability to realign its resources and competences to face changing external circumstances and thus maintain its competitive advantages (Teece,

2014; Teece et al., 1997). More concretely, this study intends to identify the criteria that create a fit between a technique and an innovation dimension, i.e., matching criteria, and develop testable propositions about these matching criteria. This enables the further advancement of the literature concerning innovation management techniques in retailing and the optimal use of these techniques.

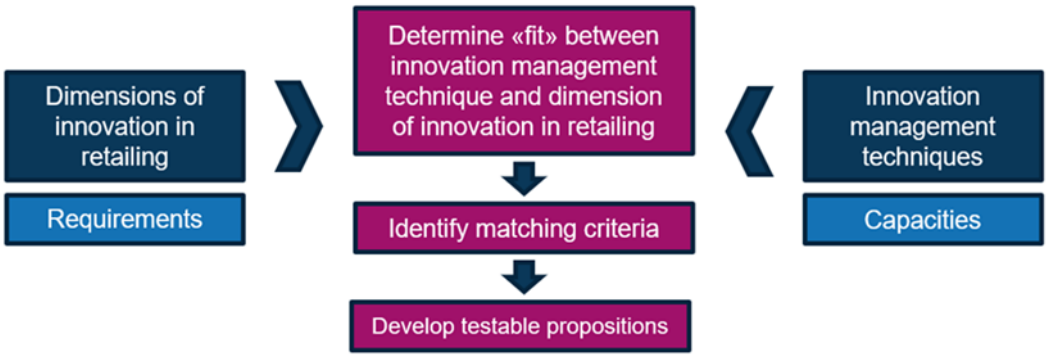
Conceptual framework

The information-processing approach proposed by Egelhoff (1991) illustrates the fit between an organization's information-processing requirements and its information-processing capacities. The approach functions on the premise that all organizations face a certain degree of uncertainty, which stands for the difference between the information required to perform a task and the information that is also already present within an organization. An effective organization is one that is able to fit their information-processing requirements to their information-processing capacities (Egelhoff, 1991; Wolf & Egelhoff, 2001).

Information-processing requirements (e.g., technological evolution, environmental change or environmental complexity) represent the external environmental factors that an organization is faced with. The information processing capacities (e.g., structure, planning and control systems or interpersonal communication patterns) are provided by an organization's own organizational design and represent its potential to cope with the information-processing requirements coming from outside the organization (Egelhoff, 1991; Wolf & Egelhoff, 2001).

As illustrated in Figure 1, we lean on the information-processing approach to support the process in which the testable propositions are developed in our study. Similar to the information-processing requirements, the eight dimensions of innovation in retailing are seen as environmental factors, as all retailing organizations conduct innovation in these areas, as they represent key components of their operations. Similar to information-processing capacities, innovation management techniques are furnished by an organization's own design.

Figure 1: Conceptual framework to determine the fit between innovation management techniques and dimensions of innovation in retailing



Methodology

To identify the strategic fit between innovation management techniques and dimensions of innovation in retailing, we took a qualitative multiple-case study approach (Eisenhardt, 1989; Yin, 2015).

This study examines eight retailing companies in Europe that are active in the fields of grocery, office products, construction materials, sporting goods/shoes and eyewear. Semi-structured interviews were conducted with all retailers (Yin, 2015), either in person at the headquarters of the retailer or via videocalls that took place between April and October 2022.

We content analysed (Krippendorff, 2018; Schreier, 2012) and coded 20 interviews to identify the innovation management sub-techniques, including all of the different techniques that retailers use to generate innovation in their organization. In the second step, we performed a second-order analysis (Gioia et al., 2013) and looked for common themes between the 37 innovation management sub-techniques that were identified. This allowed a grouping of the sub-techniques into second-order constructs to form eight distinct categories of innovation management techniques.

Based on an extant categorization of dimensions in retailing (Reinartz et al., 2011), we also sought to identify the dimensions in which the retailers in our sample innovate. We identified eight different dimensions in our data, namely, assortment, branding, customer experience, information technology, new business, order fulfillment, process and retail format.

In the next step, we determined the fit between the eight innovation management techniques and the eight dimensions of innovation in retailing, allowing the explorative identification of matching criteria. This was a manual process involving the identification of codes that were mentioned both as a characteristic of an innovation management technique and as a requirement of a specific dimension of innovation in retailing. We initially identified 48 matching criteria; similar but differently named criteria were then merged to develop a set of twelve matching criteria. In the final step, twelve testable propositions were developed regarding these matching criteria.

Findings

Our methodology identified eight second-order constructs that represent the different categories of innovation management techniques used by retailers. These are idea sensing, need sensing, creation of an innovation culture, daily business, ideation projects, startups, dedicated innovation organizations, and long-term business development strategies.

Our study also identified cases among our sample where the companies perceive a good fit between the applied innovation management technique and the dimension of innovation in retailing in which the innovation takes place. Based on this, we determined the matching criteria that determine if a certain innovation management technique may fit to a certain dimension of innovation in retailing. In total, twelve matching criteria were identified. These include access to market-ready innovations, service-provider approach, collaborative approach, different image for talent attraction, distance from parent company, external knowledge, external network, incremental innovation, internal knowledge, open culture, managerial attention, and speed.

Contributions

The theoretical and empirical contributions of this study take the form of twelve generalizable, testable propositions derived from the matching criteria developed in this study. The testable propositions can be empirically tested in further studies, for example, using an industry- or geographic-specific sample suitable for quantitative research to better understand the linkages between innovation management techniques and dimensions of innovation in retailing.

Practical implications

Our study provides implications for retail managers in the form of learning about innovation management in retailing. First, retailers can use the eight innovation management techniques we aggregated from the data to better understand the techniques that are available to them and which ones could be included in their own portfolio of innovation management techniques. Second, the eight dimensions of innovation in retailing that we identified can likewise be of

use to managers, as they assess and make decisions in the dimensions their organization should innovate. Last, the testable propositions provide managers with a set of questions that they can use in their decision-making processes.

Research limitations and outlook

This study has the usual limitations of qualitative research concerning the generalizability of the findings (e.g., Sinkovics et al., 2008). It examines retailers active in two culturally similar European countries, which means that the findings may not be transferable to other regions where industry structures (De Silva Kanakaratne et al., 2020; Dimitrova et al., 2016; Reinartz et al., 2011) or culture-related implications of innovation management (Boone et al., 2019; Kaasa & Vadi, 2010; Woodside et al., 2020) may lead to different findings.

While we show that collaboration between different actors in the innovation process is omnipresent, we do not investigate this in this paper per se. It would, for example, be necessary to look at the frictions and problems between actors and how collaboration between the actors shifts over time. Additional research could also investigate how efficient the fit is and if the fit is actually able to drive innovation.

During the data collection phase for this research, we noticed that many retailers use innovation management techniques in a flexible, dynamic and sequential manner. Some retailers start with more low-involvement and less capital-intensive techniques and then shift to different techniques at a later phase. It would therefore be interesting to conduct longitudinal studies to analyse the evolution of innovation management techniques over time.

Most importantly and as the key contribution of our study, the twelve propositions in this study should be tested to determine if they hold within a larger quantitative sample. It may also be relevant to conduct this research either differentiated by retail sector and thus also allow the identification of differences between sectors but also to differentiate between regions and competitive landscapes (De Silva Kanakaratne et al., 2020).

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THE IMPACT OF METAVERSE FIDELITY ON CONSUMER RESPONSES IN VIRTUAL RETAIL STORES

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Keywords

Metaverse, Fidelity, Shopping Motivation, Consumer Behaviour

Introduction

The world of retailing, driven by rapidly evolving novel technologies such as artificial intelligence and virtual reality, is at the verge of changing fundamentally (Grewal et al. 2017; Huang and Rust 2022). Traditional retail outlets, such as brick-and-mortar stores and even e-commerce sites are superseded by immersive, virtual retail experiences, which fluidly are subsumed as retailing in the metaverse. McKinsey & Company (2022) estimates the value creation of metaverse businesses to surpass 5 trillion USD by the year 2030, and reports that investments into the metaverse have more than doubled in 2022 to 120 billion USD, up from 13 billion the previous year.

Retailing in the metaverse is fundamentally different from retailing in existing channels, because the possibilities of creating immersive customer experiences are virtually unlimited. Due to being virtual, all aspects about the retail environment (e.g., space, location, layout, lighting, time of day, crowdedness, assortment, pricing; Bonfrer et al. 2022) and retail experiences (e.g., movement, sounds, haptics, interactions, interfaces), are fully customizable to companies. This could translate to immersive metaverse retail experiences to offer the potential to greatly enhance the value of the retailers' offerings and strengthen the retailers' connections with customers (Shankar et al. 2021). Moreover, for retailers, metaverse retailing could offer a versatile touchpoint to strengthen the omnichannel customer experience to enhance customers' store loyalty (Rahman et al. 2022).

Purpose

The current research explores the potential of fidelity to increase customer loyalty in response to their experience of shopping (vs. browsing) for groceries in a metaverse retail store. In a carefully designed lab experiment (N = 133), we test the effect of high- (vs. low-) fidelity by exposing one group of customers to a high-fidelity virtual retail store visit (using a high-end virtual reality headset) and another group to a low-fidelity version of an otherwise identical store visit (using a basic virtual reality headset).

Conceptual Background

Metaverse fidelity and customer responses

Virtual worlds, which are now being rediscovered as the metaverse, have been subject to consumer behaviour research for well over two decades (Hoffman and Novak 1996). However, experiencing the metaverse by means of virtual reality has only emerged in recent years due to technological performance of these devices posing one of the key limitations to delivery of acceptable levels of metaverse fidelity (Laurell et al. 2019). We refer to metaverse fidelity as the degree of conformity between the visual quality and experience in virtual reality to the same in the real-world (Huang and Klippel 2020). A high degree of metaverse fidelity can be affected through e.g., display resolution, field of view, and graphic rendering performance.

While scholars speculate about metaverse fidelity being a central aspect for positive customer responses (Ahn et al. 2022; Giang Barrera and Shah 2023), prior research finds no significant link between visual realism of virtual environments and individuals' object memory performances (Huang and Klippel, 2020), supporting the more general notion that vividly presented information rarely carries a greater weight in people's judgement and decision-making than less vividly presented information (Blondé and Girandola 2016, Otterbring et al. 2022). At this point, however, little research has studied the role of fidelity in customers' responses to metaverse retail experiences, and from combining knowledge about immersion in shopping experiences (Petit et al. 2022; Wang et al. 2022), it seems more likely that high, as opposed to low, fidelity will lead to more positive customer responses.

Among the theoretically relevant customer responses is customer loyalty, which results from customers' overwhelmingly positive experience with a given retailer (Stein and Ramaseshan 2019), and is expected to increase given the immersiveness of high-fidelity metaverse retail experiences. Customers' future-oriented behaviour, in turn, is expected to be moderated by their gender, which, despite stereotypical gender roles being on the decline for decades (Otnes and McGrath 2001), should moderate the metaverse fidelity-loyalty link due to the experience of visiting a virtual store being largely technology driven. With regards to the direction of the effect, mixed theories exist with the "selectivity model" suggesting that females may be more prone to respond to high-fidelity cues than male customers (Darley and Smith 1995).

Conceptual model

Based on the previous discussion, we hypothesise a positive link between metaverse fidelity and customer loyalty. We expect this link to be stronger for female than male customers. To extend the generality and external validity of our presumed gender differences as a function to metaverse fidelity, we include two distinct goals in the virtual environment (browsing vs. shopping; see Figure 1).

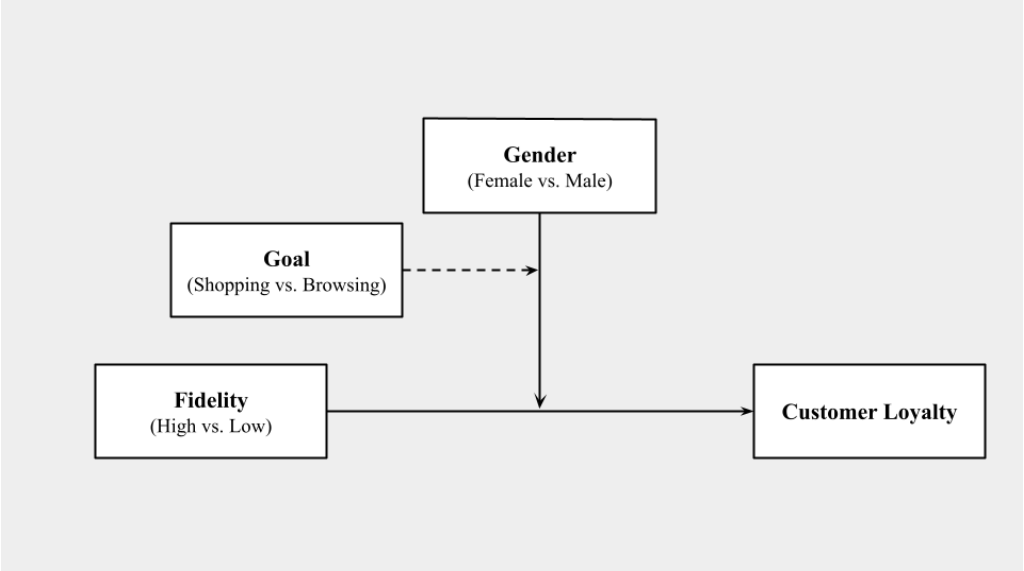

Figure 1. Conceptual model

Design/methodology/approach

The study is based on a metaverse retail store developed for the purpose of testing consumer behaviour in virtual reality retail environments. The metaverse store represented a smaller, virtual version of a typical brick-and-mortar retail store, complete with virtual avatars representing staff and customers, which has been found to generate realistic consumer responses in recent research (Jacobsen et al. 2022), thereby attesting to the external validity of this setting.

Participants

A total of 133 participants (age: M = 24.9, SD = 7.7, range: [18, 70]; 53.4% females), recruited through the behaviour lab panel at a large university in Northern Europe, completed the study.

Design and Procedure

The study was a lab experiment, with participants randomly assigned to conditions in a 2 (fidelity: high vs. low) × 2 (goal: shopping vs. browsing) between-subjects design, with participant gender (male vs. female) as an additional measured between-subjects factor. The two (high vs. low) fidelity conditions differed in terms of which VR headset were used to deliver the virtual retail store experience. In the high-fidelity condition, participants were using the HP Reverb G2 Omnicept Edition, a high-end computer-driven, connected headset, featuring a high resolution (2160 x 2160 per eye), large field of view (114 degrees), and professional-grade computer graphics performance. In the low-fidelity condition, we were using the Oculus Quest 2, a battery-powered, portable headset, featuring a noticeably lower display resolution (1832 x 1920 per eye), smaller field of view (89 degrees), and limited on-board processing power, which resulted in a subjectively less real VR experience.

Participants were instructed to shop (vs. browse) the store in preparation of a romantic surprise dinner for their partner, for which there were three missing ingredients: a package of pasta, a jar of pizza sauce, and a bar of dark chocolate. Moreover, participants were instructed that they only had a limited amount of money (about 8 EUR) to purchase all three items.

Measures

After participants completed the virtual store experience, they rated a 3-item scale reflecting their loyalty intentions (e.g., "I intend to shop at this store in the future," rated on a scale from 1 = *strongly disagree* to 7 = *strongly agree*; adapted from Maxham and Netemeyer 2002; Cronbach's $\alpha = .91$). Participants also answered demographic questions, such as their age and gender, as well as a set of questions related to a different research project.

Findings

Effects of metaverse fidelity on customer loyalty

As an initial test of our theorising, we conducted a 2 (fidelity: high vs. low) × 2 (gender: female vs. male) between-subjects ANOVA to test whether the two factors influenced participants' reported loyalty intentions. This analysis revealed a non-significant main effect of fidelity ($M_{High} = 4.48$, SD = 1.67 vs. $M_{Low} = 4.52$, SD = 1.40; $F(1, 129) = 0.03$, $p = .86$, $\eta_p^2 < .01$), and a non-significant main effect of gender ($M_{Female} = 4.45$, SD = 1.58 vs. $M_{Male} = 4.56$, SD = 1.50; $F(1, 129) = 0.19$, $p = .67$, $\eta_p^2 < .01$). These effects, however, were qualified by the hypothesised two-way interaction ($F(1, 129) = 3.78$, $p = .05$, $\eta_p^2 = .03$).

We followed up with a 2 (fidelity: high vs. low) × 2 (gender: female vs. male) × 2 (scenario: shopping vs. browsing) between-subjects ANOVA to test for contingency of these effects on the store visit scenario. This analysis suggested a three-way interaction between the factors of fidelity, participant gender, and store visit scenario, as evident from Figure 2 ($F(1, 125) = 3.88$, $p = .05$, $\eta_p^2 = .03$).

Moderated moderation analysis for the effect of metaverse fidelity

To test our conceptual model, whereby the impact of metaverse fidelity on customers' loyalty intentions should be moderated by their gender, and to further examine whether this presumed fidelity × gender moderation would generalise regardless of customers' activated goal or, alternatively, only apply to one specific goal, we performed a moderated moderation analysis with participants' gender (female = 1, male = 0) and goal (shopping = 1, browsing = 0) as moderators (PROCESS Model 3; Hayes 2018).

The conditional effect of high (vs. low) fidelity on female (vs. male) customers' loyalty intentions was significant and positive for the browsing condition ($\beta = 1.37$, SE = .56, 95% CI: [0.25, 2.48]), yet non-significant for male participants assigned to the browsing condition ($\beta = -0.71$, SE = .50, 95% CI: [-1.71, 0.27]), whereas no such fidelity × gender moderation was obtained or the shopping condition. Additional analyses that also controlled for participants' age and prior experience with virtual reality showed no influence of these factors and did not change the nature or significance of these results reported above.

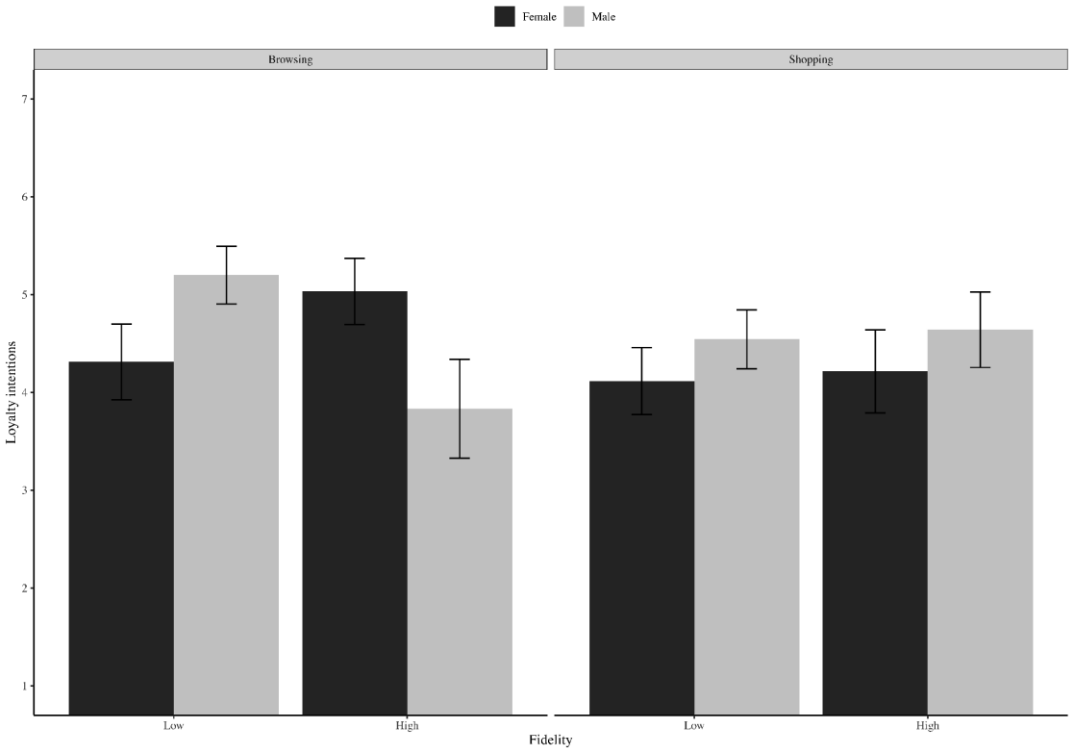

Figure 2. Ratings for participants' loyalty intentions by metaverse fidelity × participant's gender × store visit scenario. Error bars indicate SEMs.

Contributions

We experimentally tested the effect of metaverse fidelity on customer loyalty by exposing customers to high (vs. low) fidelity for different virtual retail store goals. The results suggest no general effect of metaverse fidelity on customers' loyalty. However, the results reveal that customers' gender moderates the effect of metaverse fidelity in such a way that high (vs. low) fidelity increases female (but not male) customers' loyalty intentions. The effect of fidelity on customer loyalty, furthermore, appears to be contingent on the goal for visiting the store, as the positive effect of metaverse fidelity on females' (vs. males') customer loyalty intentions only apply to browsing but not shopping.

Practical Implications

The findings of the current study are potentially impactful for future metaverse retailing theory and practice. First, the findings contribute to the growing stream of conceptual work on retailing in the metaverse (Giang et al. 2023; Grewal et al. 2017) by providing tentative empirical evidence for metaverse fidelity to influence retailers' performance through customer loyalty, albeit in a complex manner that appears to be contingent both on the gender of the customers and the precise goal they have when visiting a store (browsing vs. shopping). Specifically, the present study documents a positive effect of high (vs. low) fidelity on female but not male customers' loyalty intentions, thereby supporting the hypothesised selectivity model in customers' responses to metaverse fidelity (Darley and Smith 1995).

For the future of metaverse retailing, the presented findings also highlight the importance of investments into virtual reality technologies to enable the delivery of high-fidelity virtual reality experiences (Laurell et al. 2019). With the technology of such virtual reality devices evolving rapidly, we may either see fidelity effects increase or, alternatively, diminish once sufficient levels of metaverse fidelity has been achieved.

Research limitations and outlook

This paper is limited by the preliminary nature of these findings and, by extension, the relatively modest sample size. Upon completion of the data collection, all analyses will be updated to determine whether the hypothesised relationships between metaverse fidelity and customer loyalty hold in the full sample, in a more well-powered study.

Despite this limitation, further studies into the effect of metaverse fidelity on consumer responses are needed as newly released virtual reality headsets, such as the Meta Quest Pro, continue to push the boundaries of metaverse fidelity, potentially leading to further increases or eventually the saturation in the positive effects on customer responses to immersive metaverse retail experiences.

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EXTENDED REALITY (XR) SURVEY: A CONSUMER TECHNOLOGY ACCEPTANCE PREFERENCE STUDY ON RETAIL

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Extended reality (XR), Consumer preferences, Retail, UK

Introduction

The rapid development of technology is changing the experience of the way people purchase goods. With the rise of three-dimensional holographic technology, the e-tailing market is also facing a transition from two-dimensional to three-dimensional. A representation of 3D technology is extended reality (XR), which is gradually penetrating the entertainment and leisure sector as it continues to evolve. Extended reality includes virtual reality, augmented reality and mixed reality. Virtual reality (VR) represents immersive, interactive, multi-sensory, user-centred, three-dimensional computer-generated environments and the technologies that construct such environments (Aukstakalnis & Blatner, 1992; Cruz-Neira, 1998). Augmented reality (AR) is a range of technologies which integrate real-world and virtual information to enhance a particular reality (Lamantia, 2009). Mixed reality (MR) is defined as an existing display system that displays both real and virtual objects (Milgram and Kishino, 1994). Subsequently, Microsoft (2022) defined mixed reality as an experience that can be transformed between augmented reality and virtual reality.

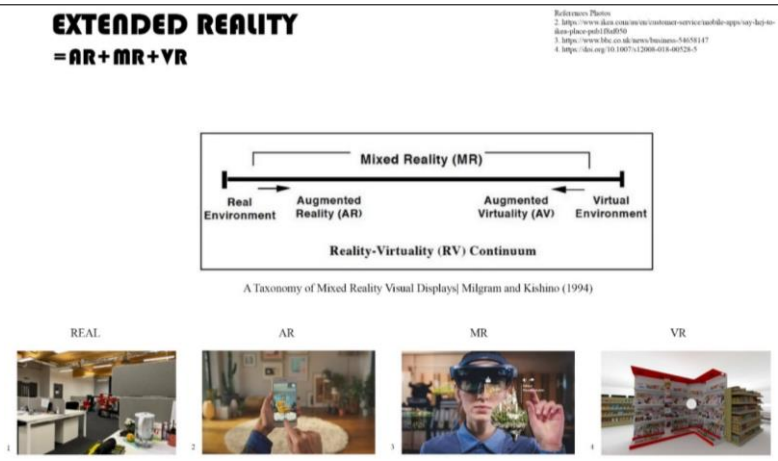

Figure 1. The Differences in Extended Reality

The adoption of extended reality in the retail industry has contributed to a more diverse shopping experience for consumers, reduced retail costs, and increased mobility, availability, and sustainability for retail (Verhoef et al. 2017; Reinartz et al. 2019; van Esch et al. 2019; Bulearca and Tamarjan, 2010). This study was conducted as a pilot study using a questionnaire with 807 participants invited to quantitatively analyse and predict the prospects and opportunities for using extended reality technology in the retail market, to provide a guide and reference for a future sustainable and equitable new digital retail market. We utilise Davis (1993) 's TAM model as a framework and identify additional factors to construct our conceptual model.

Purpose

This study aims to improve user engagement and to understand better user acceptance of extended reality (XR) technologies.

Conceptual framework

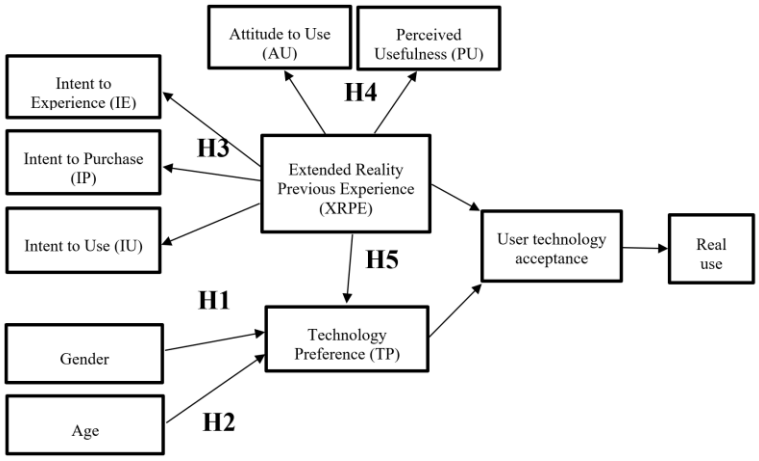

Figure 2. Conceptual Model

The model is based on an extension of Davis's (1993) technology acceptance model. Davis (1989) proposed that TAM could predict user technology acceptance based on the perceived usefulness and perceived ease of use of the technology. The TAM is based on Fishbein and Ajzen's (1975) psychological attitude paradigm, which states that the consequences of a perceived behaviour, which is the potential outcome resulting from performing the behaviour, are an affective evaluation of the behaviour. Venkatesh and Davis (1996) suggest that external variables influence perceived usefulness and perceived ease of use. While attitudes to use may lead to particular behaviours, perceived usefulness is very likely to be an influential factor leading to attitudes to use, and the external factors influencing perceived usefulness would need to discuss.

The TAM only provides an exploration of general technology acceptance; as such, its domain of the retail industry and XR technology could be further explored. This paper proposes that user intentions (intent to use, intent to purchase, and intent to experience), technology preference and previous XR experience influence users' real use of the technology.

Methodology

This study was conducted utilising a semi-structured questionnaire that focused on understanding consumer preferences and acceptance towards the adoption of extended reality technology in retail shopping as the rationale for the design. This section introduces the research questions, hypotheses, participant demographics, questionnaire design, and procedures.

Research Questions

- What are the associations between gender and a previous experience with extended reality?
- What are the associations between age and a previous experience with extended reality?
- What are the relationships between the availability of XR's previous experience on intent to use, intent to purchase and intent to experience?
- What are the relationships between the availability of XR's previous experience on attitude to use and perceived usefulness?
- What are the associations between the availability of XR's previous experience on technology preferences?

Hypotheses

- H1: Genders have significant associations with MR, AR and None; VR has no direct associations.
- H2: Age has significant associations with MR and AR; VR and None have no direct associations.
- H3: Extended reality previous experience has significant associations with intent to use, intent to purchase and intent to experience.

- H4: Extended reality previous experience has highly significant differences in attitude to use and perceived usefulness.
- H5: Extended reality previous experience has significant associations with AR, VR and None, and has no direct significant associations with MR.

Participants Demographics

The survey was conducted in Lancaster, UK. Questionnaires were distributed in the UK and China (identified as Asia in the questionnaire). 878 volunteer participants accepted the invitation, with a sample of 807 available data. Data collection was between May and June 2022. Recruitment methods involved social media; email; digital questionnaires on Qualtrics; posters; snowballing and distributing physical questionnaires on the Lancaster city high street. The questionnaire's geography has four domains: the United Kingdom, Asia, Europe, and Others. The participants' majority come from the UK and China. Participants were recruited through both online and offline sources. UK participant recruitment has two methods, offline distributing paper questionnaires at Lancaster University and Lancaster city centre by posting digital questionnaires on social media. Participants in China were mainly recruited via social media platforms.

Questionnaire

The questionnaire design contains scale questions and non-scale questions. The scale questions are based on the Likert (1932) five points scale. Non-scale questions combine single-choice, multiple-choice questions, and question responses. The questionnaire structure is in the order of the user persona, with the scale questions interspersed with single-choice and multiple-choice questions. Four scale questions show the Cronbach α coefficient is 0.83, indicating that the study data is of high-reliability quality. The CITC values of the analysed items were all greater than 0.4, indicating a good correlation between the analysed items and a good level of reliability.

Procedures

The process is identical for all participants, who are required to complete between fifteen and seventeen questions, two of which skip logic. Participants are required to read the definition of extended reality technology in the introduction to the questionnaire prior to noting their response. In the offline recruitment, participants are given a small pack of sweets as an incentive end of the survey.

Findings

Hypothesis 1. Genders have significant associations with MR, AR and None; VR has no direct associations.

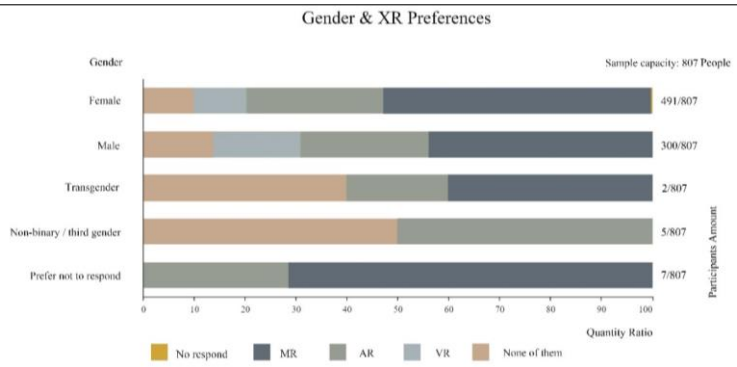

Figure 3. Gender Versus XR preferences

Pearson Chi-square Analysis (N)							
Items	Categories	Gender			Total	X^2	P
		Female	Male	Non-binary/third gender			
MR	0.0	231	167	3	401	6.251	0.044*
	1.0	257	129	2	388		
	Total	488	296	5	789		
AR	0.0	424	226	5	655	15.53	0.000***
	1.0	64	70	0	134		
	Total	488	296	5	789		
VR	0.0	341	203	3	547	0.351	0.839
	1.0	147	93	2	242		
	Total	488	296	5	789		
None	0.0	439	255	3	697	6.52	0.038*
	1.0	49	41	2	92		
	Total	488	296	5	789		

*$p<0.05$ **$p<0.01$ ***$p<0.001$

Table 1. Gender and XR Preferences Chi-square Analysis

In the table, the option was selected indicated by 1 and unselected is 0. Transgender is less than 5, thus, it would not include in analyse. Gender does not show significant associations with VR ($p>0.05$). In contrast, the Gender sample shows significant associations with MR and None of them ($p<0.05$). AR has an extremely significant association with gender. Therefore, MR, AR and None reject the null hypothesis, and VR fails to reject the null hypothesis. (H0≠H1)

MR, $Chi= (df=2, n=789) = 6.251, p<0.05.$

None, $Chi= (df=2, n=789) = 6.52, p<0.05.$

AR, $Chi= (df=2, n=789) = 15.53, p<0.001.$

VR, $Chi= (df=2, n=789) = 0.351, p>0.05.$

Females most prefer MR. 52.66% (F) > 49.17% (mean) > 43.58% (M) > 40% (non-binary). Males prefer AR. 23.65% (M) > 16.98 (mean) >13.11% (F) > 0.00% (non-binary). VR shows consistency ($p>0.05$). For those who chose None, 13.85% (M) > 11.66% (mean) > 10.04% (F) > 4% (non-binary).

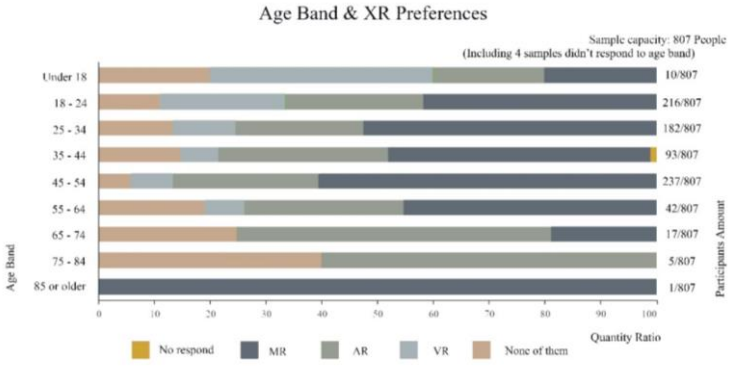

Figure 4. Age Versus XR preferences

The preference for MR gradually increases with age, peaking at the age band 45-54, then declining sharply. It is also starting in this age group that the reluctance to use any extended reality technology is proliferating. Overall, a significantly lower proportion chose to use VR in retail purchases. It is therefore speculated that mixed reality is often chosen due to its unique blend of immersion and engagement with the real world. Virtual reality, by contrast, is considered to be excessively immersive and unrealistic.

Hypothesis 2. Age has significant associations with MR and AR; VR and None have no direct associations.

Chi-Square Analysis (%)

Items	Categories	Age									Total	χ^2	*p*
		Under 18	18-24	25-34	35-44	45-54	55-64	65-74	75-84	85 or older			
MR	0.0	80.00%	58.26%	47.49%	50.00%	41.03%	54.76%	81.25%	100.00%	0.00%	50.56%	30.069	0.000**
	1.0	20.00%	41.74%	52.51%	50.00%	58.97%	45.24%	18.75%	0.00%	100.00%	49.44%		
Total		10	218	179	92	234	42	16	5	1	797		
AR	0.0	60.00%	69.27%	82.68%	91.30%	91.45%	90.48%	100.00%	100.00%	100.00%	83.19%	55.890	0.000**
	1.0	40.00%	30.73%	17.32%	8.70%	8.55%	9.52%	0.00%	0.00%	0.00%	16.81%		
Total		10	218	179	92	234	42	16	5	1	797		
VR	0.0	80.00%	68.35%	70.39%	64.13%	73.50%	66.67%	43.75%	40.00%	100.00%	69.26%	11.329	0.184
	1.0	20.00%	31.65%	29.61%	35.87%	26.50%	33.33%	56.25%	60.00%	0.00%	30.74%		
Total		10	218	179	92	234	42	16	5	1	797		
None	0.0	80.00%	88.99%	86.59%	89.13%	92.31%	80.95%	75.00%	60.00%	100.00%	88.46%	14.060	0.080
	1.0	20.00%	11.01%	13.41%	10.87%	7.69%	19.05%	25.00%	40.00%	0.00%	11.54%		
Total		10	218	179	92	234	42	16	5	1	797		

** p<0.05 ** p<0.01*

Table 2. Age and XR Preferences Chi-square Analysis

Age bands show consistency for VR and None, and the Age band show extremely significant associations for MR and AR ($p<0.001$). The probability of choosing MR in the age range of 25-54 is greater than the mean of 49.44%. The probability of choosing AR was greatest between the ages of under 18 to 34. ($H0 \neq H1$).

Hypothesis 3. Extended reality previous experience has significant associations with intent to use, intent to purchase, and intent to experience.

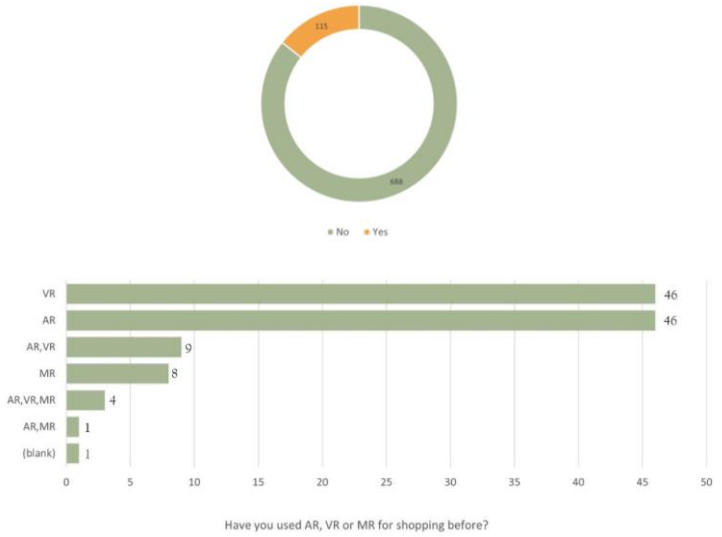

Figure 5. Extended Reality Previous Experience (XRPE)

85.7% of participants had not used XR purchasing, while 14.3% reported previously using at least one of them. The minimum number of MR usage reflects that it has not been popularised in the practical applications in retail purchases that have been developed and that the devices are less accessible in public dominant.

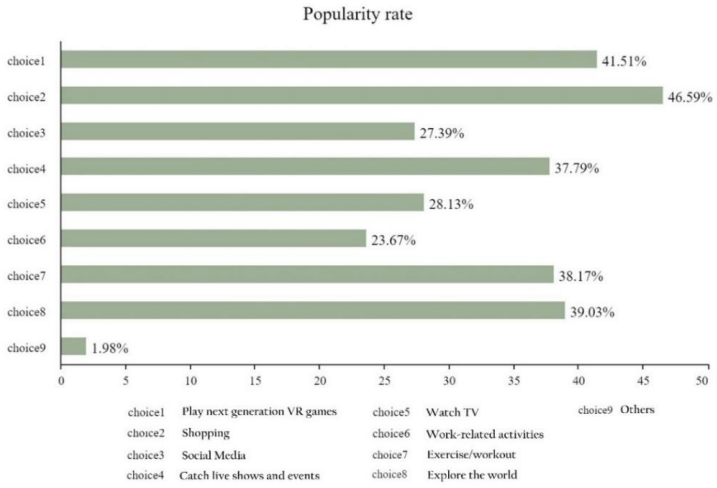

Figure 6. VR/MR Intent to Use (multi-choice)-Popularity Rate

The popularity rate of intent to use VR/MR devices illustrates that most participants chose shopping as their intent of use, with 46.6% of participants. Followed by playing next-generation games with 41.5% of participants.

The table below analyses the associations, XR previous experience (XRPE) as the independent variable, and intent to use (IU), intent to purchase (IP) and intent to experience (IE) as the dependent variable.

Chi-Square Analysis						
Items	**Categories**	**XRPE**		**Total**	χ^2	*p*
		Yes	No			
IU. Shopping	0.0	40.00%	55.67%	53.42%	9.722	0.002**
	1.0	60.00%	44.33%	46.58%		
Total		115	688	803		
IU. Live show	0.0	53.04%	63.66%	62.14%	4.723	0.030*
	1.0	46.96%	36.34%	37.86%		
Total		115	688	803		
IU. Exercise	0.0	51.30%	63.66%	61.89%	6.380	0.012*
	1.0	48.70%	36.34%	38.11%		
Total		115	688	803		
IP. Clothes	0.0	20.00%	32.41%	30.64%	7.144	0.008**
	1.0	80.00%	67.59%	69.36%		
Total		115	688	803		
IP. Furniture	0.0	43.48%	53.78%	52.30%	4.191	0.041*
	1.0	56.52%	46.22%	47.70%		
Total		115	688	803		
IE. Customisation	0.0	42.61%	54.22%	52.55%	5.323	0.021*
	1.0	57.39%	45.78%	47.45%		
Total		115	688	803		
***p*<0.05 ** *p*<0.01**						

Table 3. Associations in XRPE, with IU, IP and IE (click to see the full table)

The table demonstrated that a total of six items showed significant associations ($p<0.05$), and the remaining 17 items had no direct significant associations ($p>0.05$). (H0=H1).

The difference between those with previous experience with XR and those who purchased clothes was highly significant associations ($p<0.01$). 44.33% chose to shop but had no previous experience. 80% of the group that had used XR to shop chose to use it to purchase clothes, while 67.59% of the group that had not used it also chose clothes as their purchase intention. Overall, of the six items with significant variability, the degree of intent to use XR shopping by consumers who had experienced was Shopping > Exercise > Live shows = Explore the world. Consumers who had not used XR purchases had the intention to use the preference of Shopping > Playing games. Therefore, in these six items, experienced users held greater enthusiasm than inexperienced users.

Hypothesis 4. Extended reality previous experience has highly significant differences in attitude to use and perceived usefulness.

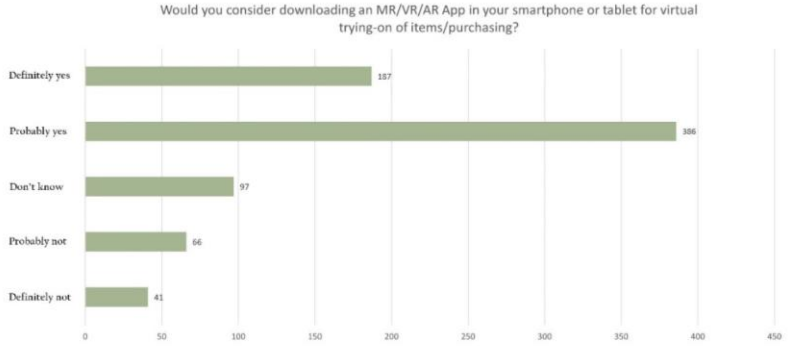

Figure 7. Retail Purchase Apps Perceived Usefulness

Compared to the cost of investing a substantial investment in a personal device, users are more receptive to installing an app.

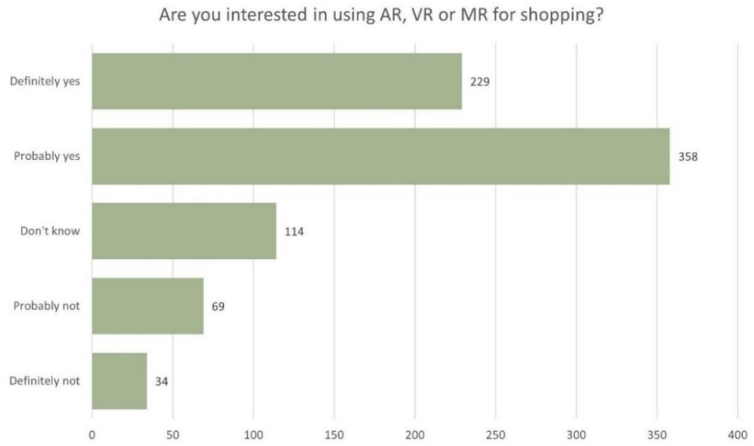

Figure 8. Attitude to Use (WB)

Most participants, 72.7%, presented interest in using extended reality technology for purchasing.

Independent t-test				
	XR Previous Experience (Mean ± Std. Deviation)		*t*	*p*
	Yes (*n*=115)	No (*n*=688)		
Attitude to use	1.78±0.90	2.22±1.08	-4.668	0.000**
Perceived usefulness	1.96±0.83	2.25±1.10	-3.346	0.001**
***p*<0.05 ** *p*<0.01**				

Table 4. XRPE Towards Attitude to Use and Perceived Usefulness Ind. T-test

XR's previous experiences were all highly significant differences in attitude to use and perceived usefulness ($p<0.01$), implying that the different XR's previous experiences were different in attitude to use and perceived usefulness. ($H0 \neq H1$).

Hypothesis 5. Extended reality previous experience has significant associations with AR, VR and None, and has no direct significant associations with MR.

Chi-Square Analysis (N)						
Items	Categories	**XRPE**		Total	X^2	P
		Yes	No			
MR	0.0	60	343	403	0.227	0.633
	1.0	54	340	394		
Total		114	683	797		
AR	0.0	86	577	663	5.71	0.017**
	1.0	28	106	134		
Total		114	683	797		
VR	0.0	65	488	553	9.579	0.002***
	1.0	49	195	244		
Total		114	683	797		
None	0.0	108	596	704	5.296	0.021**
	1.0	6	87	93		
Total		114	683	797		
***, **, * represent 1%, 5%, 10% level of significance respectively						

Table 5. XR Preference and XR Previous Experience Chi-square Analysis

The association between the variables is highly significant in AR and None, and extremely significant associations in VR. It is not statistically significant in MR. (H0≠H1).

VR was selected by 42.98% of users with prior experience of XR and 28.55% of those without prior experience < 30.61% (mean). AR was selected by 24.56% > 16.81% (mean) of those with prior XR experience and 15.52% < 16.81% (mean) of those without prior experience. For those with previous experience with XR, 5.26% chose not to use it again, and 12.74% of those without experience did not prefer any of the XR technologies. Therefore, this means that those with prior XR experience have a higher preference for both VR and AR than those without experience.

In conclusion, this work aims to provide a guideline and perspectives on consumer XR technology acceptance to contribute to extended reality technologies adoption in the retail industry. The survey (n=807) results find out a high degree of acceptance of XR technology among consumers, which emphasises the emerging importance of XR technology. The low public adoption of XR technology (one in ten) demonstrates that a gap exists in the adoption and development of XR technology.

Contributions

This paper extends the study based on Davis' (1989) model of technology acceptance and increases intent to experience, intent to purchase and XR's previous experiences to the model. The conceptual model proposes that intent to purchase, intent to use, intent to experience, attitude to use, perceived usefulness, technology preferences and XR's previous experience impact users' technology acceptance. This study benefits stakeholders and design researchers in consumer and innovative technology retail market research.

Practical implications

Our findings contribute to industry-to-consumer studies on the future development of XR technologies. From a strategic perspective, our findings can guide stakeholders to provide optimal XR technology, user experience and marketing strategies for diverse target customer groups and retail sectors. It also offers evaluative data and actionable insights for the future transition to XR technologies for retail trading businesses.

Research limitations and outlook

Despite some consumers demonstrating a fanatical interest in technology, others are showing a pessimistic attitude. The head-mounted displays of VR and MR limit the availability to consumers who struggle with vertigo or have eye impairment. Further research can focus on cross-culture consumer technology preferences and explore the factors contributing to consumer preferences and awareness differences between Chinese and UK consumers.

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Keywords

Extended reality (XR), Consumer preferences, Retail, UK

GAMERS' PERSONALITY TRAITS AND ONLINE COMPULSIVE BUYING

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Keywords

Online Gaming Behaviour, Personality Traits, Social Connectedness, Compulsive Buying, Gaming Addiction

Introduction

Over the past 20 years, the gaming industry has become a key contributor to the global entertainment economy. According to market researcher Statista, the video gaming industry has generated over $315 billion revenue in 2022 ("Video Games - Worldwide", 2023). Online video gaming behaviour deserves scholarly attention because the interactions among gamers, online gaming and game producers have changed substantially over the last decade. During the 2000s, revenues in the video game industry were generated predominantly due to the sales of hard copies in the format of CDs and DVDs (Lizardi, 2012). In the 2010s, when games were distributed via the digital channel, they could be downloaded directly from the official websites and stores. Most of the game developers switched to a subscription-based model, which required standard monthly or yearly payments (Zendle *et al.*, 2020). The majority of up-to-date games do not require an instant fee from gamers, but they involve in-app purchasing that are

'hidden' in the game plot; and gamers cannot achieve progress and upgrade their character effectively without making regular payments (Neely, 2021). Thus, video and mobile games have become what can be classified as truly 'online' games because in-app purchases require an uninterrupted internet connection. As a result, gamers have become far more involved in consumer decision-making and commercial activities, which have a direct impact on the gaming revenues, as opposed to old-school games where skills and time spent determined the performance related outcomes (McCaffrey, 2019).

Previously, gaming research has predominantly focused on the gamers' socio demographics (i.e. gender and age), lifestyles, consumer experiences, access to gaming information, subjective norms and ability to control individual behaviours and purchasing behaviour (e.g.(Balakrishnan and Griffiths, 2018; Chen, 2010). However, these attempts lacked a systematic investigation of online compulsive gaming and compulsive buying behaviour. For example, Balakrishnan and Griffiths (2018) focused on a mixture of variables (i.e. loyalty towards games, addiction to online games and in-app purchasing), while impulse purchasing has been given minor attention in empirical research. Zhang et al (2007) and Rezaei et al (2016) explored the problem of impulse purchasing with respect to the online environment, but did not examine obsessive online purchasing behaviour. This research compensates this gap by focusing on consumers' compulsive gaming behaviour with regards to obsessive and impulsive online game purchasing. This research provides better insights into the online purchasing behaviour because the project investigates compulsive game buying behaviours from a new angle using the personality traits and 3M model introduced by Mowen (2000). 3M model stands for unique and individual responses to gaming behaviour and provides a customised approach to studying consumers' compulsive buying behaviour in the gaming industry. Compulsive purchasing behaviour has been chosen as an object of this study because it is a typical gamer response to online games with microtransactions characterised by such attributes to intangibility, addictive behaviours, and emotional attachment (Lee and Kim, 2017; Santos, 2002).

Purpose

The aim of this research is to investigate the effect of gamer's personality traits on compulsive buying in the online gaming industry. Therefore, it examines gamers' personality traits as antecedents and compulsive behaviour as a consequence and perceived social connectedness and achievement orientation as mediators. Social connectedness refers to the social value attached to connectedness indirectly encouraged the purchasing intensions of in-game virtual objects (Hsiao and Chen, 2016). Customers viewing purchasing in-game objects as a means of improving connectedness with other game players. Achievement orientation refers to gamer' achievements within games, such as, being a top player in rank.

The theoretical contribution of this study is seen in comparing the predicting power of different trait predictors with respect to compulsive game buying behaviour. It is expected that Mowen's (2000) 3M Model can be modified, and the study suggests removing some of the trait predictors. This research will also contribute to understanding how online gamers with different personality traits are responsive to game developers' marketing stimuli aimed at instant buying and developing recommendations to sustainable gaming. While the latter have access to marketing statistics and metrics that measure the effectiveness of their efforts, there is still no field research

linking personality traits and compulsive buying in the gaming industry at a sufficient sample of human participants. According to Philander et al (2015), paid subscriptions are no longer an effective business model for online games because it fails to stimulate emotional attachment and gamers' involvement. Alternatively, embedded purchases allow for building long-term relationships with customers and stimulate immediate (in contrast to delayed) buying of objects that provide in-game advantages.

Conceptual framework

The study offers a conceptual framework based on the following hypotheses.

H1a-H1b. Gamer's personality traits are related to compulsive buying behaviour: obsessive buying and impulsive buying
H2a-H2b. Perceived social connectedness mediates the relationship between gamer's personality traits and compulsive buying behaviour: obsessive buying and impulsive buying.
H3a-H3b. Achievement orientation meditates the relationship between gamer's personality traits and compulsive buying behaviour: obsessive buying and impulsive buying.

Design/methodology/approach

This study adopts a quantitative approach. Primary data were collected via online surveys from 600 online gamers. The constructs were measured using standard personality measurement scales and other scales (Hair *et al.*, 2019). Structural equation modelling is used for data analysis (Hooper *et al.*, 2008).

Findings

Two research models were created when conducting structural equation modelling, full mediation model and partial mediation model. 3 personality traits are positively correlated with compulsive buying behaviour indirectly: Agreeability, Materialism and Need for Arousal. On the other hand, Openness to Experience is negatively correlated with compulsive buying behaviour. 3 personality traits are not related to compulsive buying behaviour: Emotional Stability, Introversion and Conscientiousness. The findings support that perceived social connectedness was positively related to compulsive buying behaviours; achievement orientation and perceived social connectedness partially mediated the relationships between gamers' personality traits and compulsive buying behaviour.

Original/value

This study may be of high value for updating and improving the existing typology of online gaming relying on how individuals play different game genres. The existing stereotypical classifications into game genres (e.g., simulation games, casual games, RPG, etc.) (Fox and Tang, 2014) does not directly reflect 'how gamers play' but is rather focused on 'what they play'. Therefore, social value: perceived social connectedness and achievement orientation have been added in this study to uncover 'playful identities' or behaviour-underpinned attitudes to different aspects of life, including impulsive purchasing in the context of online games (De

Lange, 2009). The study examines the degree to which trait predictor(s) comply with specific behaviour patterns of gamers. Potentially, certain personality types would be inclined to choose certain video game genres. An interesting theoretical outcome would be that it is not online game genres, which are selected by gamers with specific set of traits, but it is playing styles, which are predicted by individuals' traits across all game genres. In turn, the relevance of game purchasing to each game genre can be assessed relying on the overall individual predisposition to act impulsively. From a theoretical standpoint, microtransactions integrated in online games are closely associated with impulsive buying (Liu *et al.*, 2013).

Practical implications

The practical implication of this study is recognised in developing recommendations on sensible and more responsible online game buying as opposed to impulsive purchasing. While game developers might use the results of this study for constructing a more sophisticated marketing strategy for online sales, the idea of personality-based purchasing habits and stereotypical purchasing should be popularised among individual gamers. This study will contribute to individual understanding and awareness of personal purchasing habits in the online gaming environment in conjunction with personality characteristics, which would gradually convert individual gamers into more rationale and conscious market players. Furthermore, executing a higher level of control over impulsive buying, online gamers might be able to deeper understand the precursors and consequences of their own internet addiction. This study allows for identifying the riskiest personality types of gamers prone to making instant and impulsive purchases. The results might be used by video and mobile game marketers, consultants, and even by addiction therapists and coaches who help addictive gamers to control their excessive spending and playing of games. Consumers' interaction with loot boxes resembles gambling behaviour in a casino where spending is uncontrolled and unavoidable, but the prize is highly unpredictable (Díaz *et al.*, 2017).

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Keywords

Online Gaming Behaviour, Personality Traits, Social Connectedness, Compulsive Buying, Gaming Addiction

SUSTAINABLE INSULATION MATERIALS FOR E-GROCERY SHIPMENTS: A MULTI-CRITERIA EVALUATION

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Keywords

Sustainable packaging, insulation materials, e-groceries, green commerce, multi-criteria evaluation.

Introduction

The e-commerce business is characterized by continuous growth, in particular within the grocery sector. E-grocery products are typically shipped using disposable transport packaging, which is thrown away by the consumer upon delivery of the goods. This linear packaging

system results in intensive resource consumption and high waste volumes. According to current estimates, transport packaging is causing around 30% of emissions in online retailing and is therefore, together with last-mile delivery, responsible for the majority of the ecological footprint of online retailing (DHL Research and Innovation, 2022). For temperature-controlled products, the performance is even worse because the insulation of the products requires substantially more packaging material. For quite a long time, polystyrene has been one of the most popular insulation materials used for packing temperature-sensitive goods (Vamza et al., 2021). However, polystyrene is made from fossil raw material and takes many centuries to decompose if sent to landfill sites (Su et al., 2020). Due to this circumstance, there is an increased focus on developing sustainable alternatives for polystyrene. Packaging technologists have recently rediscovered natural materials such as straw, hemp or sheep wool as innovative solutions that challenge the position of existing man-made alternatives (Morris, 2019). A thorough comparison of different insulation materials for cold chain deliveries is however currently missing in the literature.

Purpose

The aim of this research is to provide a comprehensive overview and examination of different insulation solutions for sustainable e-groceries packaging and assess their potential to be applied for online food retailing. To evaluate the sustainability of packaging innovations, a comprehensive framework considering different aspects is needed, since there might be trade-offs and synergies arising from different evaluation criteria (Santi et al., 2022). Therefore, six criteria for evaluating the ecological, economic and operational performance of the insulation materials have been defined. The following research question will be answered: Which alternative insulation material performs best in terms of temperature hold time, customer acceptance, environmental performance, lightweight, volume utilization and price attractiveness? For that purpose, a multi-criteria evaluation of five different insulation materials is conducted. The insulation materials under study include recycled paper flakes, recycled polyester fibres, straw, hemp and sheep's wool. A comprehensive evaluation scheme consisting of different criteria to estimate the potential and feasibility of the insulation solutions is being developed. This allows us to derive recommendations on which packaging solution to use for which requirements and use cases.

Methodology

To fully capture the variety of technologies and providers existing in the market, a desktop research about different insulation solutions has been conducted as a first step. We used conventional databases (Google) but also scientific databases (Scopus and Google Scholar) to research the market for innovative and sustainable transport packaging. Thus we were able to collect a list of 16 insulation solutions from various suppliers all over the world that could potentially lead to a reduction of greenhouse gases in e-grocery deliveries (see Annex). We classified the solutions according to the material they are based on, which lead to a number of five different insulations materials that are further evaluated in the course of this research: Recycled paper flakes, recycled polyester fibres, straw, hemp and sheep's wool.

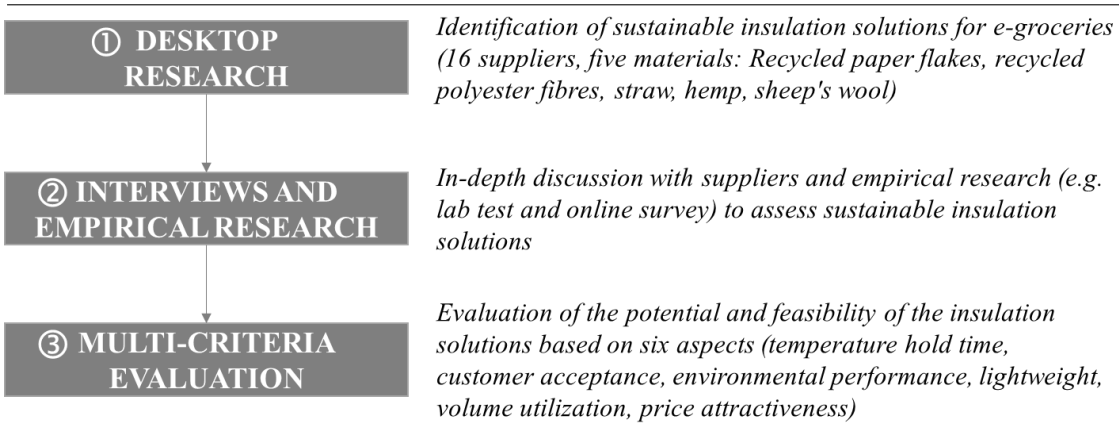

Figure 1: Research approach to evaluate different sustainable insulation solutions

A mixed-method approach was used to evaluate different aspects of these packaging solutions and assess their potential for e-grocery deliveries. On the one hand, different physical properties of the insulation solutions were specified based on the assessment of product samples provided by the suppliers. These physical properties include volume utilization (i.e. how much space in the packaging is occupied by the insulation) and weight (i.e. how much does the insulation weigh). Furthermore, the price attractiveness (i.e. purchase costs) of the different insulation solutions is juxtaposed based on pricing information of the providers.

The environmental performance of the insulation materials is assessed based on different ecological KPIs, including primary energy consumption, water consumption, origin of raw material or use of certified materials. Expert interviews with sales managers from the insulation providers (several years of experience in the field of sustainable packaging) were conducted to get insights into the KPIs.

To rate the customer acceptance, an online survey on the topic of sustainable packaging has been conducted (sample size n= 1017, representative of the Austrian population in terms of age and gender). Respondents were asked to show their preferences on different packaging materials in the survey.

Finally, the temperature hold time is determined by conducting lab tests in a climate chamber. The reusable packaging box from the provider HeyCircle is equipped with the different insulation solutions. Four coolbags with 900 g each are included to chill the content of the box. Three sensors measure the temperature in different areas of the box (two on the outer edge and one in the centre of the box). The summer profile according to the standard AFNOR ST-48-b (modified) is used to simulate changing transport conditions and external temperature influences. Thus, we are able to detect how long the temperature inside the box can be kept below 4° Celsius and 8° Celsius. Additionally, we used a vibratory plate to simulate the multiple use of the insulation materials and find out how often they can be reused.

Figure 2: Different sustainable insulation materials in the lab test (left: recycled polyester fibres, center: recycled paper flakes, right: hemp)

Findings

Volume utilization is an important performance indicator in logistics to ensure maximum use of capacities and increase sustainability (Khan et al., 2017; Wong et al., 2018). We therefore determined the degree to which the five insulation materials utilize the volume in a shipping box. The wall thickness of the individual insulation materials is the key figure to determine volume utilization. It has been found that wool and hemp have the lowest wall thickness (the wool/hemp insulation panel have a thickness of around 15-20 mm) and thus perform best in terms of volume utilization. This is followed by polyester fibres. The paper flakes and the straw scored worst in this evaluation category since they have around 25-30 mm wall thickness which leads to a poor volume utilization rate.

Another important logistics indicator is lightweight. In view of weight limits and tariffs tied to a shipment's weight, it is relevant how heavy the insulation is (García-Arca et al., 2020). In terms of lightweight, again the sheep wool insulation scored best as it weighs very little. The total weight of the sheep wool needed to insulate a HeyCircle shipping box size L only accounts for 0.42 kg. Polyester fibres are nearly as light as sheep wool. All other insulation materials have substantially more weight. Paper flakes, hemp and straw scored worst in the lightweight category: For these materials, the total weight needed to insulate a HeyCircle shipping box amounts to roughly 1.2 – 1.4 kg each, which is significantly more than the weight of the sheep wool or polyester insulation.

Price attractiveness is one of the main preconditions for the acceptance of sustainable logistics innovations (Pfoser, 2022). Hence, the purchase price of the five insulation materials is juxtaposed. The information on purchase prices is either based on quotations we received from the suppliers or online retail prices. It turned out that the insulation made of recycled paper flakes has the lowest purchase price and thus the best price attractiveness (depending on the purchase quantity the purchase price of the paper flakes insulation from SUPASO is between 3,44 € per unit (minimum order quantity 300 pieces) and 3,14 € per unit (minimum order quantity 3.000 pieces). The insulation made from hemp has the highest purchase price (around 11 € per unit).

Regarding the environmental performance, the recycled paper and the polyester fibres (made from recycled PET) show the highest score and thus have the highest ecological benefit. This

is mainly due to the fact that they are made of recycled material, which causes very low environmental effects (such as total primary energy consumption).

Customer acceptance on different packaging materials is revealed by an online survey conducted among 1,017 end-consumers. The results show that especially the nature-based materials are considered to be environmentally friendly, with straw being in the first place. Polyester fibres, though recycled, are estimated to be least sustainable by end-consumers. This confirms consumers' general dislike of plastic as a material (Marchi et al., 2020; Zwicker et al., 2021). In grocery deliveries, cleanliness is also an important issue. Notably, some consumers show hygiene concerns regarding particular materials. Hygiene concerns are especially related to straw and sheep wool. On the other hand, paper and polyester are predominantly considered to be clean and uncontaminated materials. We also asked respondents what surface texture they do most associate with sustainable packaging. We found that a "textured/rugged" packaging surface was rated most sustainable, followed by "grainy" and "rough". The properties "soft" or "smooth" were most frequently rated as "not sustainable". This confirms that nature-based materials such as straw or hemp are particularly considered to be sustainable. The survey results also reveal that end-consumers show a willingness to pay for the packaging in case it is a sustainable alternative to conventional materials.

The lab tests conducted in the climate chamber show that the recycled polyester fibres have the best insulation performance. The "Smartliner" insulation solution of the supplier EcoCool is based on polyester fibres and keeps the temperature below 4° Celsius for about 70 hours and below 8° Celsius for at least 72 hours. The insulation performance of the recycled paper flakes provided by the supplier SUPASO is similarly high with a temperature hold time of 68 hours below 4° Celsius and 70 hours below 8° Celsius. Sheep wool showed the weakest insulation performance in the lab tests with only 35 hours temperature hold time below 4° Celsius. Pre-cooling the insulation material only has a slight impact on the temperature hold time (hold time can be increased by 1-2 hours in some cases).

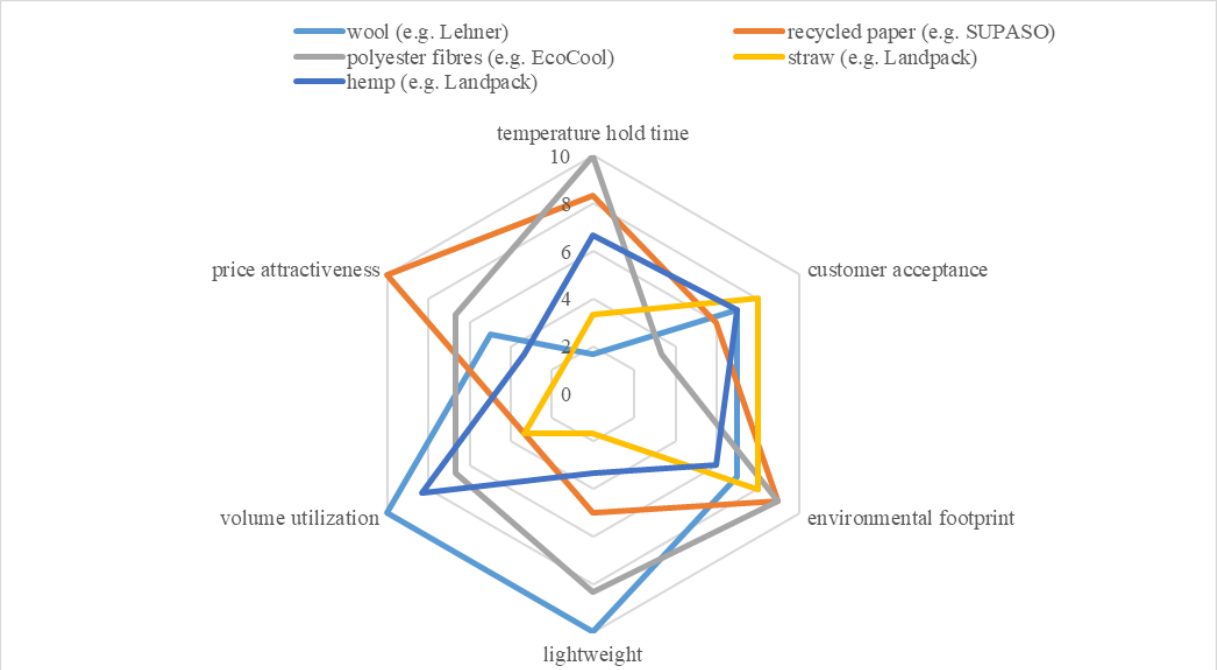

Figure 3: Multi-criteria evaluation of different insulation materials (10 = best score, 0 = weakest score)

Contributions

This study estimates the potential of five sustainable insulation materials for e-grocery shipments. The results show that there is no 'one size fits all' solution which scores best in every dimension of the multi-criteria evaluation. Depending on the particular requirements of the e-grocery retailer, different insulation solutions may be preferred. For example, if the retailer aims for a low purchase price, the recycled paper insulation scores best. However, recycled paper has a rather high weight and poor volume utilization. If the retailer is looking for maximum temperature hold time, polyester fibres score best. However, polyester fibres show the lowest customer acceptance.

This is one of the first studies comparing several different alternative insulation materials for transport packaging at the same time. Most existing studies either elaborate on individual alternative packaging materials only (e.g. Dieckmann et al., 2019 on feathers, Abhijith et al., 2018 on mycelium) or are related to the construction industry and not packaging (e.g. Corscadden et al., 2014). Vamza et al. (2021) is the only study which compares different insulation materials to be used for transport packaging, but they do not provide empirical evidence such as temperature profiles to evaluate the insulation materials.

The results of this study entail valuable insights for e-grocery retailers. By using environmentally friendly packaging, retailers can address one of the most serious barriers to online grocery: The occurrence of additional packaging waste due to food shipping. The results of this study guide retailers in choosing a sustainable insulation solution which meets their requirements best.

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Appendix

Table 1: Sustainable insulation solutions identified in the desk research (solutions printed in bold letters are part of the multi-criteria evaluation)

Material base	Supplier / packaging solution	Supplier origin	Insulation material
Paper / cardboard	DS Smith: ClimaCell	United Kingdom	Paper, biobased materials
	easy2cool	Germany	Recycled paper flakes
	EcoCool: Innobox	Germany	Paper
	Packit: Foodmailer	Austria	Cardboard
	RanPak	United States	Paper thermal liner
	SUPASO	**Austria**	**Recycled paper flakes**
Plastic / polyester	**EcoCool: Smartliner**	**Germany**	**Polyester, recycled PET**
	Isopack	Germany	Plastic (50% recycled)
	Storopack	**Germany**	recycled styrofoam
	Tempack	Spain	Recycled PET
Straw	**Landpack: Landbox Straw**	**Germany**	**Straw**
Hemp	**Landpack: Landbox Hemp**	**Germany**	**Hemp**
Animal-based	**Lehner Wolle: Isolena 400**	**Austria**	**Natural wool fibers**
	Pluumo	United Kingdom	Surplus feathers
	Puffin Packaging	United Kingdom	Natural wool fibers
	WoolCool	United Kingdom	Natural wool fibers

Table 2: Specification of the insulation solutions under evaluation

Insulation type	**Supplier / packaging solution**	**Dimensions (mm)**	**Wall tickness (mm)[1]**	**Weight single piece (kg)[2]**	**Pieces/ box**	**Total weight of the insulation / HeyCircle box (kg)[3]**
Recycled paper flakes	SUPASO	A: 300 x 380 B: 350 x 180 C: 180 x 380	30	0.288 0.153 0.178	6	1.235
Polyester, recycled PET	Eco Cool: Smartliner L	A: 1500 x 380 B: 1070 x 510	20 25	0.210	2	0.420
Straw	Landbox-Straw	1 Panel: 300 x 260	25	0.220	10 cuts	1.475
Hemp	Landbox-Hemp	1250 x 400	18	0.680	2	1.360
Sheep wool	Lehner: Isolena 400	S: 200 x 1150 L: 400 x 1020	15 20	0.145 0.270	2	0.415

A= top/bottom

B=short side

C= long side

Table 3: Indicated prices of insulation solutions under evaluation (based on an order quantity of 6,000 pieces)

Insulation type	**Supplier / packaging solution**	Price range (per unit prices)	Source
Recycled paper flakes	SUPASO	3,14 €	Supplier quotation
Polyester, recycled PET	Eco Cool: Smartliner L	5 €	Supplier quotation
Straw	Landbox-Straw	7,80 €	Ratioform[4]
Hemp	Landbox-Hemp	11,02 €	Ratioform[5]
Sheep wool	Lehner: Isolena 400	5,50 €	Supplier quotation

[1] According to samples provided by the suppliers
[2] According to samples provided by the suppliers
[3] Total weight of the insulation material needed to insulate one HeyCircle shipping box size L
[4] https://www.ratioform.at/p/thermobox-stroh-terra-landbox-p145367/ldp1/
[5] https://www.ratioform.at/p/thermobox-hanf-standard-terra-landbox-p153196/

ASSESSING CONSUMER WILLINGNESS TO PAY FOR DIGITAL CLOTHES

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Keywords:

Digital clothes, Uniqueness, Sensation seeking, Online consumers, Willingness to pay.

Introduction

The progressive diffusion of digital technologies is leading many fashion companies to integrate them in their offerings and develop "digital clothes", namely clothes that exists only in the digital form. These products are determining the rise of the so-called "digital fashion". In response to this trend, many fashion brands have launched their collections of digital clothes. Marketing research has recently started to investigate consumers' disposition towards digital clothes (Joy, 2022). However, the motivational factors that lead consumers to purchase these products are still unexplored.

Purpose

To close the above illustrated gap, this research focuses on the perceived uniqueness of digital clothes, which likely impacts consumers' willingness to pay for these products. Moreover, considering that digital clothes might elicit some new sensations, this research also assessed whether consumers' sensation seeking tendency, namely their "need for varied, novel and complex sensations and experiences" (Zuckerman, 1979, p. 10), affects the impact of uniqueness on willingness to pay for digital clothes.

Conceptual framework

Digital clothes as unique intangible products

Digital clothes can be commercialized as NFTs, that is, non-interchangeable (and hence unique) assets that could be tracked through electronic records (Alkhudary, Belvaux, and Guibert, 2022). In some cases, modern technologies allow consumers to make digital clothes more reflective of their own individuality. This suggests that some consumers might consider the purchase of digital clothes as a new form of self-expression. From this perspective, digital clothes can be considered as unique items that can potentially fulfill consumers' desire for individuality. Considering that many consumers attribute economic value to a product' uniqueness and are willing to pay a price premium for it, it appears feasible that consumers

who perceive digital clothes as unique products are willing to pay a higher price for them. Therefore, we propose the following hypothesis:

H1: The perceived uniqueness of digital clothes increases consumers' willingness to pay for such products.

Moderation effect of sensation seeking

Many individuals feel a chronic desire to engage in experiences that can increase their level of sensory stimulation. This desire for novelty, referred to as "sensation seeking", can motivate said individuals to look for unconventional, unusual experiences. Recent research noted that sensation seekers are drawn to fashion stimuli that appear original and unpredictable (Lee and Porterfield, 2022). Consequently, the effect that perceived uniqueness of digital clothes exerts on consumers' willingness to pay for these products might be more evident among sensation-seekers. For this reason, we propose the following hypothesis:

H2: The positive effect of digital clothes' perceived uniqueness on consumers' willingness to pay for such products is stronger when consumers exhibit a high sensation seeking tendency.

Methodology

One hundred and fifty-nine consumers (mean age = 30.65, SD = 12.85; 39% males) recruited through a crowdsourcing platform completed an online questionnaire aimed at surveying their opinions about digital clothes and intentions towards these products. They rated the perceived uniqueness of these products, their willingness to pay for them, and their sensation-seeking tendency. Finally, they indicated how much they were interested in fashion and provided their gender and age.

Findings

Participants were relatively interested in fashion (M = 3.98, SD = 2.15). We ran a moderation analysis that tested whether the effect of digital clothing's perceived uniqueness on consumer willingness to pay for these products depends on consumer sensation-seeking. The analysis confirmed H1 because uniqueness was found to positively influence consumers' willingness to pay for digital clothes, and H2 because such an effect was significant when participants exhibited a high level of sensation seeking.

Originality

This research makes two key contributions to the emerging literature on digital fashion. First, it indicates that the perceived uniqueness of digital clothes affects consumer willingness to pay for these products. Past studies underscored that uniqueness motivates consumers to pay for scarce products such as luxury goods (Shukla, 2012). In this respect, our research highlights that uniqueness promotes the purchase of digital clothes. Second, this research demonstrates that the consumers who most likely value the uniqueness of digital clothes exhibit a strong sensation seeking tendency.

Practical implications

Managerially, this research suggests that companies interested in developing collections of digital clothes should consider the uniqueness and originality of these products as a a determinant of consumer willingness to pay for them. Our results also indicate that digital clothes should be targeted to consumers who are willing to experiment with new products and that are stimulated by new experiences (i.e., "sensation seekers").

Research limitations and outlook

As regards the limitations of this research, it should be acknowledged that our study offers some initial evidence for the effects of uniqueness and sensation seeking on consumer willingness to pay for digital clothes. Therefore, future studies could further investigate these effects and also consider other factors likely to affect consumer disposition and behavior toward digital products – for instance, interest for digital products, Internet usage, need for status, and materialism.

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Keywords

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ACCURACY OF REPRESENTATION IN AR-BASED SHOPPING

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Keywords
Augmented reality, TAM, Perceived Usefulness, Accuracy of Representation, Repurchase Intention, Marketing Strategy

Introduction

This paper proposes an extension to the Technology Acceptance Model (TAM) by adding a new 'accuracy of representation' leading to perceived usefulness. The paper examines the external factors affecting behavioral intention, reviews the relevant literature, and argues that in the case of AR, the factor accuracy of representation has a significant impact on perceived usefulness and is a vital element for repurchase intention.

Purpose

Customers are becoming used to augmented reality (AR) and virtual reality (VR) applications as the top technologies likely to aide them in their daily lives (Arghashi and Yuksel, 2022; NielsenIQ, 2019). Mobile AR apps make shopping experiences easier for customers by enhancing the process of searching for information and purchasing behavior (Nikhashemi et al., 2021; Park and Yoo, 2020). AR's usefulness as a tool was boosted during the COVID-19 pandemic (Rhee and Lee, 2021), when physical shopping was no longer an option. Furthermore, the results from a study by Arghashi and Yuksel (2022) indicated that brand engagement using AR enhanced consumer satisfaction and intention to interact with the

brand. This paper bases itself on the extended model of TAM by Pantano et al. (2017), and aims to investigate the importance of accuracy of representation in AR-based online shopping.

Conceptual framework

Pantano et al., (2017) investigated the influence of AR technology on consumers' decision-making to shop online. They included four specific external factors related to interactive technologies such as (1) aesthetic quality, (2) quality of information, (3) response time, and (4) interactivity relying on the user experience concept. Kim and Hyun (2016) mentioned accuracy as one of the sub-factors included in the external factor of quality of information. Kim and Hyun (2016) found that quality of information influences perceived usefulness, but indirectly influences the intention to reuse AR-based apps. Anand et al. (2023) also found accuracy to be a sub-factor of quality of information. Their study was done on smart tourism. Anand et al. (2023) and Dieck et al. (2021) also acknowledge that users expect accurate and reliable information when using VR and AR. However neither of them distinguished accuracy as an individual external factor for determining behavioral intention. Reibstein (2002) distinguishes between product representation and product information which can strengthen the argument to extract accuracy (of product representation) from the external factor (quality of information) in which Pantano et al. (2017) placed the sub-factor. This paper argues that accuracy in terms of accuracy of representation should be examined as an individual external factor because of the importance of right product representation (Nitse et al., 2004; Reibstein, 2002). this paper proposes the following hypotheses as a further extension to the model (see Fig. 1) as proposed by Pantano et al. (2017):

H1: Accuracy of representation has positive effects on perceived usefulness.

H2: Accuracy of representation has positive effects on repurchase intentions.

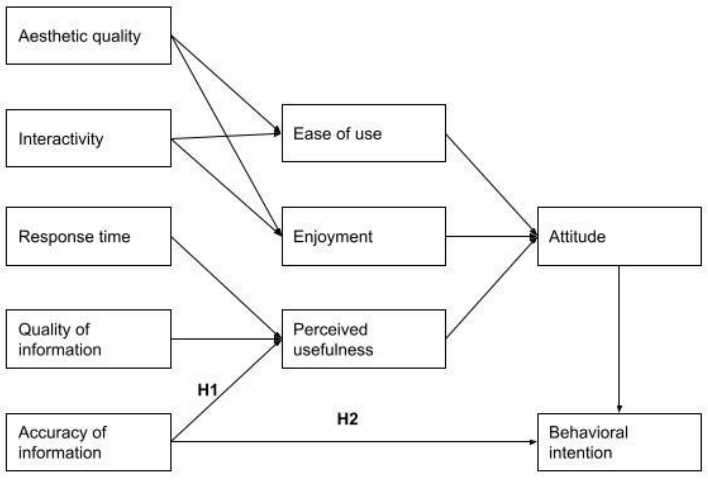

Fig.1: Conceptual model

Design/methodology/approach

Being a conceptual paper at this stage, the research approach has so far been restricted to problem identification, conceptualization, and relevant literature review. The authors have strived to synthesize extant literature in support of introduction of the explicit construct ‘accuracy of representation’ and relevant proposed hypotheses that extend the TAM model.

The ensuing empirical work is deemed to be quantitative in nature, deploying a questionnaire-based survey to be conducted among online shoppers. A sample size of three to four hundred will be deemed ideal, sample will be selected from users of shopping sites that have implemented AR. Geographic locations in this regard is not viewed as a restricting factor. Further literature review will be conducted to generate construct related items, it is viewed that all items should come from extant literature. Structural equation method using SPSS and AMOS will be used to analyze data, test hypotheses and ascertain model fit, following data cleaning, scale and construct reliability testing, and checking for construct validities (convergent and discriminant).

Findings

The literature that has been reviewed for this paper shows that accuracy of representation can be seen as an important external factor that affects and reinforces purchase and repurchase intention (Nitse et al., 2004; Parasuraman et al., 1991). It is possible to determine that accuracy can be extracted from quality of information. Nitse et al. (2004) found that most customers would not purchase from an online retailer again if they did not get the expected product. This emphasizes that if the consumers do not get the right product, they will most likely not see AR technology as useful when shopping online. However, if customers consider the usage of AR to be useful, they are more likely to accept the technology and use it again, supported by Anand et al. (2023). Hence, this indicates that accuracy of the representation of the product has a significant role in accepting AR and repurchasing from a brand or firm using AR.

Original/value

This paper contributes by positing accuracy and as an external factor affecting perceived usefulness and repurchase intentions and adding the theoretical rationale of the proposition. In addition, it provides suggestions as to adopting AR within the strategic marketing tools that may be deployed.

Practical implications

With the expected market growth of $88.4 billion by 2026, more businesses are using and/or are aiming to use AR in their marketing strategy and services (Markets and Markets, 2021). The literature suggests that AR can be used as a strategy (Rauschnabel et al., 2019; Tan, 2018), and findings from other researchers (Dacko, 2017; Whang et al., 2021) indicate that AR can enhance customer's loyalty towards the brand. The constantly evolving consumer demands and expectations open up avenues for AR to contribute to fulfilling emerging demands and expectations. However, this requires that the product the customer is viewing online meets their expectations upon receiving the physical product. Therefore, accuracy of representation of the product is argued to be a vital factor in accepting the technology (AR) and repurchase intention, especially for getting consumers to buy from an online retailer again (Nitse et al., 2004).

Research limitations and outlook

This paper suggests that further empirical research should be done to test the hypotheses and their fit with the extended interpretation of TAM. It should be kept in mind that there may be other external factors that can be significant in TAM and repurchase intention that should also be considered in the case of AR. In addition, Pantano et al. (2017) did not include service quality in their extended model of TAM. This is an area that could be interesting to investigate further in AR online shopping. Also, it could be investigated further if accuracy of representation has a positive effect on enjoyment. We believe that accuracy of representation as an external factor in TAM needs to be examined more in depth because of the lack of research on how it affects the relations in the proposed model.

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RETAIL TECHNOLOGY AS DRIVER OF STORE SPACE PRODUCTION: LAYOUT, SERVICES AND EXPERIENCE

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Retail, technologies, store space, production of space, store layout, in-store experience

Introduction

Digital technologies are dramatically reshaping various aspects of the in-store experience, from information searching and product evaluation to interaction with other customers and employees (Shankar *et al.*, 2021). They also influence how customers orient, communicate and engage with the physical retail spaces at different levels (Alexander and Blazquez Cano, 2020; Ameen *et al.*, 2021) As a consequence, the physical space of the store changes according to the introduction of such technologies, which modify physical and sensorial elements of customer experience (Ameen *et al.*, 2020; Pantano *et al.*, 2022).

For instance, fast fashion brands like Zara are introducing advanced checkout desks, positioned either near traditional tills or in the fitting room area, to speed and simplify the checkout process. Traditionally, customers had to wait in queue at the cash desk to pay for the items they want to buy, which were scanned one by one by store employees. With this new technology, customers position the items in a basket that automatically recognises them and calculates the total amount to be paid. Thus, digital technology further impacts the store (physical) space in terms of layout. Specifically, store layout is an important topic in retail literature, largely investigated by scholars (Newman and Foxall, 2003; Krasonikolakis *et al.*, 2018; Pantano *et al.*, 2021; Ma *et al.*, 2021). However, recent studies call for more

investigations on how the stores could explore even better technologies to improve consumer experience and optimize retail management (Marikyan *et al.*, 2023; Quinones *et al.*, 2023).

Purpose

The introduction of new technologies in traditional (physical) points of sale largely reshapes the space and usage that consumers make of it. Therefore, store space can be perceived as a dynamic entity instead of a static one, whose production is strictly linked to the changing conditions of the environment. Accordingly, the present research aims at exploring how technologies influence store layout, and, more broadly, the concept of (retail) space production.

Conceptual Framework

Retail technologies occupy specific (physical) spaces in the store, modifying layout, services, and consumers' experiences (Bäckström and Johansson, 2006; Ma *et al.*, 2021). Thus, also retail space can be produced. However, the concept of space production goes beyond the physical location of the technology and can be investigated through the lens of the "production of space" (Lefebvre, 1991). According to this lens, space can be *produced* at three main levels: perceived space, conceived space and lived space. Drawing upon the concept of space production and its application in various disciplines (Karplus and Meir, 2014; Capener, 2020; Delaisse *et al.*, 2021; Strus *et al.*, 2023), this research develops the new concept of space production in retail stores.

Specifically, the perceived space is the physical space (Lefebvre, 1991). Thus, in the (physical) retail store, it consists of the layout, positioning of shop windows, shelves and racks, fitting rooms, tills and atmospherics (i.e., elements that produce specific emotional effects in buyers, to enhance their purchase probability (Kotler, 1974; Basu *et al.*, 2022)). The conceived space is the abstract space of the standards and values of the planners and policy-makers which is reflected in the physical space arrangement and (expected) usage. In retailing, it can be identified as the services (in terms of space devoted to a certain action/function) provided to customers by retailers and retail planners. The lived space embraces the space formed by the experience of the users, the feeling that they perceive within a space. Thus, the lived space can be identified as the experience lived by consumers when visiting the store (consumers experience).

Figure 1 shows our theoretical framework, emphasising the possible production of the retail store space.

Figure 1. Theoretical framework.

Methodology

The research employs a qualitative approach based on direct observations of apparel brand stores, since the apparel industry is one of the most advanced in terms of technology adoption (Pantano and Vannucci, 2019). Moreover, all the stores belonging to this category present comparable assets and layouts. The adoption of this methodology, being non-intrusive, allows researchers to understand phenomena in the exact context in which they take place, preserving their authenticity (Bonoma, 1985; Grove and Fisk, 1992). Given the purpose of the present study, field observations result also particularly effective in reaching the intended objective, as they enable the recording of customers' space fruition within their natural setting.

In particular, the observations take place in London (UK) between March and April 2023, in Oxford Street, Regents Street and Sloane Street. Indeed, London Oxford Street has been named the most popular shopping street in Europe (BNP Paribas Real Estate, 2022), London's Regent is one of the most-visited retail destinations in Europe (BNP Paribas Real Estate, 2022), while Sloane Street is recognised as one of the best luxury destinations for shopping (Sells, 2021). Thus, the observation of those streets enables the collection of data from fashion brands encompassing fast, premium/high streets, luxury stores and sports brands. Overall, 111 stores were visited, 34 for each fashion store category (fast, premium, luxury) and 9 for sports one. Among them, only those having at least one technology installed were considered in the analysis, resulting in 23 fast fashion stores, 22 premium stores, 13 luxury stores and 8 sports stores (66 stores in total). Each store included in the observation is a mono-brand and part of an international chain.

While visiting the stores, each researcher independently took notes about the available technologies (when available), the space occupied, and the service delivered to consumers, and finally compared the outcomes of each observation. In order to limit the development of biases, the same structured observation protocol was built and adopted in the data collection process, based on the following variables: store typology, presence of digital technologies, type of digital technologies, physical space occupied by a retail technology, and modality of service provided; consumers' usage and experience.

The technologies present in the visited stores were then identified and grouped into different categories, according to the classification provided by Pantano et al. (2017): (i) info/product display technologies; (ii) shopping experience technologies; (iii) information search technologies; (iv) payment technologies; and (v) others. While each technology was analysed in relation to each of the three main dimensions that emerged from the theoretical framework and the brand typology (fast, premium, luxury, sports).

Findings

First, considering the perceived space, the integration of digital technologies impacts the physical arrangement of the store in terms of layout, by either substituting traditional elements or filling empty spaces (for instance, digital displays in the shop window replaced mannequins and physical products in some premium brands). Also, some technologies, marginally visible, can enhance the actual elements of the space like the atmospherics (e.g., they allow to modify lights and colours intensity in fitting rooms for some sports brands). Similarly, technologies can also introduce new activities to be performed within the same space. For instance, when self check-outs are placed in the fitting room area (which is the case of some fast fashion brands), the fitting room space becomes also the space for checkout, extending the *traditional usage*. Second, dealing with the conceived space, the

introduction of retail technologies enriches the services offered, thus, the benefits for customers. For instance, self-service collection technology, which enables the collection of orders placed online and delivered to the store speed up the process of collection, as it is completely autonomous. Third, for lived space, the introduction of retail technologies enhances the experience, either in terms of utilitarianism or hedonism (Scarpi, 2012; Pizzi and Scarpi, 2020). On the one hand, these technologies provide new services to save time, access a larger offer of products, and find a better match with personal preferences and needs. On the other hand, the quality of the interactions and the different functionalities offered by the technology add entertaining elements to the shopping experience.

Table 1 provides a comprehensive overview of the results of the analysis. Specifically, the effective space of the store occupied (store layout), the service and functionalities offered and the experience delivered (in hedonic and utilitarian terms) are presented according to each technology and brand typology.

Table 1. Technology space production levels in relation to brand typology

		Fast fashion	**Premium**	**Luxury**	**Sport**
Store layout (perceived space)	Display	Tills area, fitting rooms, products display space, shop window	Tills area, fitting rooms area, products display space, shop window	Products display space, shop window	Tills area, fitting rooms, products display space
	Self check-out	Tills area, fitting rooms area	-	-	-
	Photoboot	-	Products display space	-	Products display space
	Smart mirror	-	Products display space	-	-
	Robot	-	-	-	Products display space
	Self-service collection technology	Product display space	-	-	-
	Other (light and athmosphere regulation, tool for shoes size measurement)	Fitting rooms	-	-	Products display space, fitting rooms
Services and functionalities (conceived space)	Display	Collection of customer contact information, brand campaign, browse and show products, collect online orders delivered to the store, call to action (App usage, pre-owned products), fitting room assignment and number of items tracking	Brand campaign, brand runway show, browse product catalog and find information on availability (online and in store), newsletter sign in	Brand campaign, brand runway show, brand logo, information on in-store events	Brand campaign, fitting room athmosphere setting, browse product catalog, request products from the fitting room, call store employees
	Self check-out	-	-	-	-
	Photoboot	-	Take printable pictures with the brand logo	-	Take printable pictures with the brand logo
	Smart mirror	-	Virtual try-on of clothes (special collaboration collection)	-	-
	Robot	-	-	-	Simulate walking movement with the shoes on display
	Self-service collection technology	Collection of orders issued online and delivered in store	-	-	-
	Other (light and athmosphere regulation, tool for shoes size measurement)	Light intensity and color regulation	-	-	Measure foot shape and dimension to suggest the correct shoe size, light intensity and color regulation

Customer experience (lived space)	Display	Hedonic, utilitarian	Hedonic, utilitarian	Hedonic, utilitarian	Hedonic, utilitarian
	Self check-out	Utilitarian	-	-	-
	Photoboot	-	Hedonic	-	Hedonic
	Smart mirror	-	Hedonic, utilitarian	-	-
	Robot	-	-	-	Hedonic, utilitarian
	Self-service collection technology	Utilitarian	-	-	-
	Other (light and athmosphere regulation, tool for shoes size measurement)	Utilitarian	-	-	Utilitarian, hedonic

Summarizing, retail technology (i) substitutes traditional store elements and/or fills empty store paces (perceived store space), (ii) enriches the services and functionalities offered (conceived store space), and (iii) enhances hedonic and utilitarian consumers' experience (lived store space).

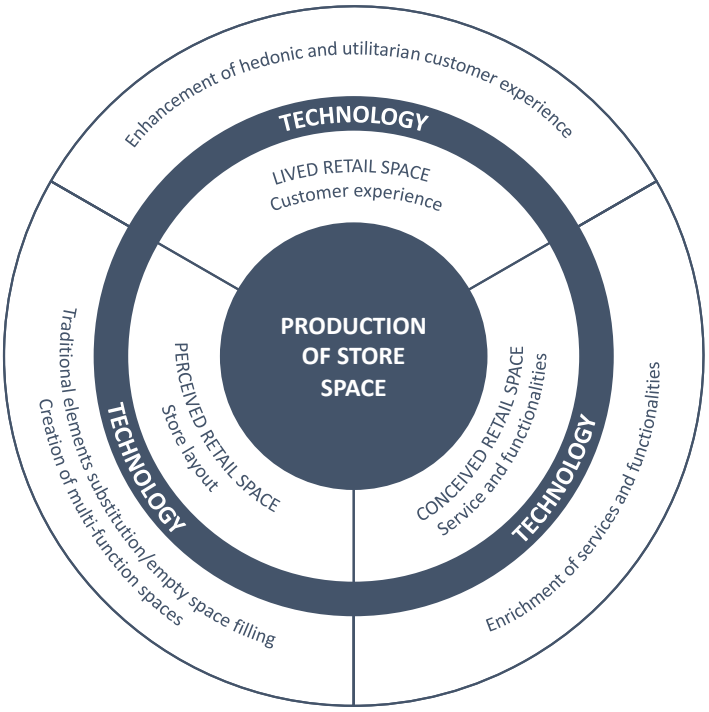

Figure 2. Production of space in retail stores and the impact of technology.

Contribution

The present work extends the production of space theory to the store space, by pointing out how the theory applies in the physical retail setting and identifying the levels that contribute to the store space production. In this way, our research contributes to a more comprehensive definition of the concept of store space as the simultaneous combination of layout, services (activities and functionalities) and consumer experience. Indeed, the approach shows the store space from a holistic perspective and stresses the impact of retail technology from the physical level to the service and experience level.

Practical implications

The present work shows the extent to which the introduction of retail technologies in the store space produces an impact at different levels. Thus, when retailers plan to add new technology, its impacts on all three levels should be considered, since the levels are interrelated and not mutually exclusive.

Research limitations and outlook

This research is based on direct observations, additional studies embracing interviews with retailers might provide more corroborating evidence on the perceived space. Likewise, interviews and surveys directed to customers could better explore their perception of the lived space. On top of that, collecting data from retailers and retail planners would allow understanding if there is a (mis)match between how they expect the space to be experienced by consumers and how it would be effectively experienced. Moreover, the present research focus on the fashion sector. Therefore, future research could provide additional evidence from other sectors like grocery or beauty.

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eBay UK, the keynote speaker of the 8th CERR 2023, has also generously donated reusable cups and shopping totes to support the Colloquium.

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