CERR 2025

9th

COLLOQUIUM ON EUROPEAN RESEARCH IN RETAILING

Book of Abstracts

JÖNKÖPING UNIVERSITY

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Table of contents

Colloquium on European Research in Retailing

26 – 27 June 2025

Introduction

The retail sector is undergoing a profound transformation, driven by the integration of emerging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), Blockchain, and Virtual Reality (VR). These technologies are reshaping not only the operational and strategic dimensions of retailing but also the fundamental ways in which humans experience retail environments. This technological evolution presents both opportunities and challenges, demanding a renewed focus on the human aspects of retailing.

The ninth edition of the Colloquium on European Research in Retailing (CERR), hosted in Jönköping, Sweden, is organized around the theme Transformation in Retail: Human-Centric Innovation. The event aims to serve as a platform for advancing rigorous, interdisciplinary research that critically examines how retail innovation can remain anchored in human values, behaviors, and social impact. We are glad to report that this theme has enjoyed massive support and that 51 submissions have been presented to address such issues. The list of presenters and an index of authors are included at the end.

Emerging technologies are enabling new forms of value creation. AI supports real-time decision-making and hyper-personalized marketing, allowing retailers to predict and respond to consumer needs with unprecedented accuracy (Grewal et al., 2020). IoT facilitates seamless integration between physical and digital touchpoints, contributing to improved logistics, dynamic pricing, and interactive in-store experiences (Pantano et al., 2020). Blockchain, by enabling secure and transparent data management, offers retailers new tools for supply chain verification and consumer trust-building (Brusset et al., 2024). VR and augmented reality, meanwhile, open immersive pathways for consumers to engage with products and brands beyond the physical store.

Yet, these benefits must be weighed against the risks of a technology-centric approach that marginalizes human considerations. Algorithmic systems may introduce biases or erode consumer autonomy. Data-intensive platforms raise pressing ethical questions about privacy, surveillance, and consent. The automation of retail processes can have deep implications for employment structures, skill demands, and worker well-being. As these technologies increasingly shape the architecture of retail, it becomes imperative to ask: how can innovation serve human needs—not just operational efficiency?

This question underscores the significance of human-centric innovation, a concept that emphasizes designing systems and experiences around human values, participation, and well-being. As Wetter-Edman (2011) articulates in her work on service design, human-centric approaches must go beyond functional problem-solving to engage with the experiential, social, and ethical dimensions of service delivery. Her work over the years shows that innovation is most impactful when it involves users as co-creators and responds to their situated needs and contexts.

Retail research must thus adopt a holistic, interdisciplinary lens that brings together technology, design, psychology, ethics, and systems thinking. Scholars must examine not only how consumers react to technological interfaces, but also how these systems alter consumption practices, reshape expectations, and influence social norms. Critical questions arise: How do consumers experience AI-mediated personalization? In what ways can IoT-enabled spaces enhance or compromise customer autonomy? What governance frameworks are needed to ensure ethical blockchain implementation? How do VR environments impact consumer trust, decision-making, and inclusivity?

The research presented at this year's colloquium, the 9th edition, responds to these questions from a range of methodological and theoretical perspectives. Many contributions illustrate how emerging technologies can be deployed to enhance human agency and well-being in retail settings. Others provide critical insights into the risks of technocentric innovation that lacks ethical oversight. Together, these works advance a collective understanding of what it means to innovate responsibly in a rapidly evolving retail ecosystem. Again, the community of researchers involved in advancing the frontier of knowledge at the intersection of retail, marketing, and operations management demonstrate the applicability of scientific research in managerial settings. This and other books of abstracts from previous editions can be found on the website of the Colloquium on European Research in Retailing.

The idea to establish a platform for European retail researchers who focus on marketing as well as 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 North Florida) and Christoph Teller (University of Johan Kepler, Austria). The inaugural edition of the Colloquium on European Research in Retailing (CERR pronounce /'s3:(r)/) took place 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 next edition, in 2020, then moved to Spain and was held in Valencia. That edition, under the blight of the pandemic, was followed up in the following year in 2021 and was held on the French Riviera: Sophia Antipolis, on the campus of the SKEMA Business School. In 2022, the University of Zagreb took turns to host it in Zagreb, capital of Croatia. In 2023, the United Kingdom was again receving the scholars on the campus of the University of Portsmouth. We are happy to have a Swedish host now accepting to host our Colloquium in 2025.

Since the first edition, the International Journal of Retail & Distribution Management has been supporting this effort by offering to publish special issues with the best papers submitted to the colloquium (Kotzab et al., 2015, 2016, Brusset et al., 2017, Frasquet et al., 2021, Kotzab et al., 2023). In particular, its Editor in chief, Professor Neil Towers, has proved a staunch and enthusiastic supporter. We wish to express here our deepest gratitude for his uncompromising appreciation.

The founders' main 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.

Jönköping, with its dynamic academic and entrepreneurial environment, provides an ideal backdrop for this inquiry. Given the region's vibrant ecosystem of innovative SME's and strong regional actors, CERR offers a crucial platform for intellectual exchange among leading scholars, early-career researchers, and industry practitioners committed to advancing retail theory and practice. We are grateful that the M2C E-handel project co-financed by the European Regional Development Fund, further facilitated this international event. This year's theme is a call to action: to ensure that retail transformation is not only technologically sophisticated but also ethically grounded and socially responsive.

As the retail landscape evolves at speed, guided by data, algorithms, and immersive interfaces, the academic community must play a central role in shaping its direction. The proceedings of CERR 2025 reflect this ambition—documenting research that not only tracks transformation but helps steer it toward outcomes that center the human experience.

We hope you find new and interesting insights in this book.

Jönköping, 20 June 2025

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5

A Service Eco-System Perspective of Grocery Category Management

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Keywords

Consumer, Private Label, Eco-system, Category Management, Value, Co-creation.

Introduction

This paper examines the role of category management in the context of private label grocery products within the UK, drawing on the Service Eco-System framework Akaka and Vargo (2015); Akaka et al. (2013) to explore value co-creation. The research uses the Service Eco-System framework by Akaka and Vargo (2015); Akaka et al., 2013), emphasizing the co-creation of value in service systems. It also aligns to the ecosystem service approach with service-dominant logic (Matthies et al., 2016). Specifically, it investigates category management in the UK grocery sector and how private label products are integrated into the product assortment.

Category management, a strategic approach in the grocery industry, involves collaboration between retailers and suppliers to manage product categories effectively (IGD, 2025; Wu et al., 2024; Benson, 2020; Gooner et al., 2011; Aastrup et al., 2007). By focusing on product categories rather than individual brands, this approach aims to optimize market demand and customer satisfaction (Alan et al., 2017). With the growing popularity of private label products due to improvements in quality, availability and consumer perceptions, especially in the UK, this study seeks to understand how value is generated and co-created through category management (Kantar, 2025; IGD, 2025; Latinovic and Chatterjee, 2024; Teece et al., 2024; Benson et al., 2019; Morris et al., 2018).

Purpose

Category Management in Grocery Retail

Category management, developed in the 1990s through collaborations like Procter & Gamble and Walmart, focuses on optimizing product categories rather than individual brands (Wu et al., 2024; Nielsen et al., 2006). This approach develops collaboration and resource-sharing between retailers and suppliers, with suppliers offering insights to manage categories effectively (Wu et al., 2024; Hubner, 2011). Private label manufacturers increasingly aim for the role of 'category captain,' influencing product assortment, pricing, and placement (Nakkas et al., 2020; Gundlach et al., 2019). However, private label suppliers often struggle to gain parity with branded suppliers in category management, limiting their value contribution (Benson, 2020; Kurtulus and Toktay, 2011).

Category Management Relationships: Private Label in the UK Grocery Market

The rise of private label products in the UK reflects growing consumer trust in their quality and value (Valaskova et al., 2018). Retailers have capitalized on this shift by emphasizing both price and quality, maintaining consumer loyalty (Gielens et al., 2021; Keller et al., 2020; Chakraborty, 2018). Retailers allocate more shelf space to private labels as their sales grow, often at the expense of national brands (Wu et al., 2024; Amrouche and Zaccour, 2007). Effective category management also involves educating consumers about the innovation and reliability of private label products, which increasingly influence consumer loyalty (Mishra et al., 2020; Marques et al., 2020).

Value Co-Creation and Service Dominant Logic (S-DL)

Service Dominant Logic (S-DL) shifts the focus of value creation from the retailer to the interaction between the retailer and supplier (Vargo and Lusch, 2008). In category management, both parties collaborate to create value for the consumer. As Chandler and Vargo (2011) note, value co-creation depends on an equitable relationship between the retailer and supplier. Misalignment of continuous interaction can result in value co-destruction from value loss (Makkonen and Olkkeonen, 2017; Echeverri and Skalen, 2011).

The research aims to explore the role of value co-creation in category management within the UK grocery market. The objectives are to:

- Critically assess the extent to which the service eco-system perspective applies to understanding value co-creation in UK grocery category management relationships.
- Make recommendations to retail managers on the relevance and application of this framework in professional settings.

Conceptual Framework

The Service Eco-System framework, based on S-DL, emphasizes that value is co-created through interactions among multiple actors within a system (Vargo et al., 2020). A service eco-system is a self-adjusting system of resource-integrating actors connected by shared institutional arrangements creating value through service exchanges (Vargo and Lusch, 2016). The framework has four key characteristics:

Value is phenomenological: Value perceptions vary across different actors, depending on their role and perspective within the service eco-system (Vargo and Lusch, 2016).

Value is always co-created: Vargo et al., (2020) argue that value is always co-created within service eco-systems through the integration of network actor resources and knowledge.

Value is multidimensional: Value in a service eco-system is always influenced by individual, social, technological, and cultural factors, shaping product category decisions (Vargo et al., 2017).

Value is emergent: Value within service eco-systems emerges through actor interaction and is contextually situated (Vargo et al., 2017).

Methodology

This research adopts a phenomenological methodology, drawing inspiration from value theory and the Vargo et al. (2017) Service Ecosystem model. The primary goal is to explore the lived experiences of practitioners involved in category management within private label grocery settings. According to Lewis and Staehler (2010), phenomenology emphasizes the importance of experiencing phenomena in specific contexts to understand them fully, which aligns with Vargo et al. (2017) first axiom of value co-creation, asserting that value is always experienced phenomenologically.

Practitioners in category management were asked to reflect on their daily experiences, particularly focusing on what they consider valuable in their relationships and how value is co-created within these contexts. In line with axioms (2) and (3) of the Service Ecosystem, which suggest that value is co-created and multidimensional, the research sought to capture the perspectives of all social actors in the private label grocery sector. Both suppliers and retailers were included in the study, ensuring a comprehensive view of value creation in this ecosystem. The sample encompassed large and small manufacturers and retailers, including representatives from the 'big-4' supermarkets, discounters, and premium food retailers. Participant identities and affiliations were anonymized in accordance with ethical protocols.

The research involved twenty-five senior practitioners from the UK food industry, interviewed using a semi-structured, inductive approach, designed to co-create a conversation that fully explored the participants viewpoint (Saldanha and O'Brien, 2013). Interviews ranged from one to two hours in length, generating over 150,000 words of verbatim data. All interviews were audio-recorded and transcribed by the lead author, with follow up deeper interviews where key points were identified by the author during transcription. Data collection spanned one year and was approved by Sheffield Hallam University's Ethics Committee.

Thematic analysis was employed to identify and categorize key themes from the interview data. This yielded over 160 codes across both supplier and retailer interviews. Through the constant comparison method Clarke et al. (2015) recurring patterns emerged, that offered an understanding how value is co-created in category management relationships (Spradley, 1979).

Findings

This paper highlights the shifting dynamics in grocery retail, particularly the rise of private label products, and investigates how category management collaborations between retailers and suppliers create value within a service eco-system. Private label products have experienced substantial growth, evolving from generic low-cost alternatives to high-quality competitors of branded items (McNeill and Wyeth, 2011). Reports from Kantar (2025) and IGD (2025) highlight a shift in consumer purchasing behaviour, with private labels gaining annual market share. Retailers are increasingly focusing on the value of private label products, which are often associated with price competitiveness and quality.

This research supports the notion that value co-creation in category management is crucial in this context. However, private label suppliers face significant challenges. Large, branded manufacturers dominate category management due to their superior resources, such as data analytics, marketing budgets, and established relationships with retailers. As a result, private label suppliers are often seen as secondary players, despite their growing value. A key issue explored is whether private label suppliers can assume the role of category captain, typically held by branded manufacturers. Although private label suppliers lack the resources of their branded counterparts, their deep sector knowledge and close ties to their products position them as potential leaders, particularly in price-sensitive categories.

The research shows that private label suppliers face increasing pressure to meet consumer demands for innovation and quality, especially regarding food trends and retailer preferences. Despite operating with lower profit margins, they are well-suited to take leadership in category management, leveraging their specialized knowledge and flexibility. Consumer interest in private label products continues to rise, driven by lower prices and improved quality (Kantar, 2025; IGD, 2025). Private label suppliers struggle with resource imbalances, which limits their ability to compete with branded manufacturers. Branded category captains are less effective in categories dominated by private label, as they offer more tailored and innovative solutions.

From a phenomenological perspective, in this research, grocery retailers and suppliers were found to have different perceptions of value depending upon their level of investment and involvement in the product or category (Vargo & Lusch, 2016). In this context the actors involved in category management reported that they work together to create value by integrating their respective knowledge and resources. For example, the retailers in the sample contribute insights into consumer behaviours in relation to their respective categories, whilst the manufacturers provide insight and expertise on category trends. In some cases, this even amounted to manufacturer brand managers being embedded within retailer executive teams to drive innovation and create value across their categories. This gave rise to the term of the job role 'implant', thus aligning with Vargo et al.'s (2020) intention that actors within service eco-systems integrate knowledge and resources. This also relates to the multi-dimensionality of value co-creation defined by Vargo & Lusch (2016). When working with retailer management teams the 'implant' will advise, innovate, problem-solve, and lead category processes and decisions. The company employing the 'implant' gives them direct access to the retailer and easier to fulfil the role of category captain. In this research the informants interviewed also explained that the value of a product category is shaped by various factors such as brand image, consumer preferences, and cultural trends, which influence decisions around product assortment and marketing. As one manager in the UK explained, value is continually shaped through interactions with their manufacturing partners, therefore value emerges across different contexts at different times. This dynamic and evolving nature of value creation underscores the importance of the eco-system perspective within the UK grocery market category management relationship (Vargo et al., 2017).

Practical and Managerial Implications

This research bridges the gap between academic theory and practical application, offering valuable insights into the shifting role of private label products in the UK grocery sector. It highlights the potential for private label suppliers to assume category captain roles, challenging existing literature that often overlooks them in favour of branded manufacturers. By recognizing the entrepreneurial potential of private label suppliers, retailers can innovate in product development and packaging, creating differentiated offerings.

The research also identifies value co-creation and value co-destruction within category management relationships. Despite their resource limitations, private label suppliers can contribute valuable retailer-specific insights. As consumer preferences evolve, retailers must reconsider their category management strategies and embrace the growing influence of private label products.

Research limitations and outlook

This research examines category management in the UK grocery sector, focusing on the evolving role of private label suppliers in value co-creation within the service ecosystem. It highlights how private label products, once secondary, are now poised to lead category management. The findings suggest that private label suppliers are increasingly able to take on roles traditionally reserved for branded manufacturers, such as category captains. This shift is driven by changes in consumer behaviour, the growing importance of price and quality, and the specialized knowledge private label suppliers bring. The study also emphasizes that private label suppliers, through innovation and alignment with retailer needs, are well-positioned to lead within category management. As the market evolves, retailers must adapt by adopting new models of category management that reflect the increasing significance of private label products.

Future research should explore the expanding role of private label suppliers across the broader UK grocery market, considering more categories and participants for a deeper understanding of the dynamics among private label suppliers, branded manufacturers, and retailers. Quantitative studies could further validate these findings and assess their generalizability across a larger sample.

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Technology-Enabled Personalization in Brick-And-Mortar Retail: Employee and Customer effects & Human-Enabled Personalization moderation

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Keywords: In store technology, personalization, decision convenience, customer experience, customer loyalty

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Technology-Enabled Personalization in Brick-And-Mortar Retail: Employee and Customer effects & Human-Enabled Personalization moderation

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Keywords

In-store technology; personalization; decision convenience; customer experience; customer loyalty

Introduction

Online stores boomed in recent years (Grewal et al., 2023a; Ratchford et al., 2023; Szocs et al., 2023) and are forecasted to continue growing by nearly 11 percent by 2027 (Statista Research Department, 2023). Despite the rapid growth of online sales and brick-and-mortar retailers' challenges from emerging digital and mobile technologies (Pantano & Dennis, 2019), over 80 percent of retail sales continue to occur in brick-and-mortar stores (Grewal et al., 2023a). This illustrates that brick-and-mortar stores continue to play an important role. To remain competitive, brick-and-mortar stores must create experiences that are difficult for online retailers to replicate (Grewal et al., 2023b) and must consequently invest in technology, personalization, and convenience to create this (Grewal et al., 2023a).

In today's retail landscape, many brick-and-mortar retailers struggle to provide personalized experiences (Scholdra et al., 2023). Implementing technologies can help retailers overcome these challenges (Riegger et al., 2022; Scholdra et al., 2023; Szocs et al., 2023; Wang et al., 2023). These technologies, referred to as technology-enabled personalization (TEP), simultaneously integrate physical and digital personalization dimensions using historical and real-time data, yet research on its impact on customers remains scarce (Riegger et al., 2021).

Purpose

The purpose of this research is fourfold. First, we investigate the effect of TEP in brick-and-mortar stores on employees, an often-overlooked aspect (Grewal et al., 2023b). Second, we focus on the long-term impact of TEP on consumers, specifically customer loyalty. Third, we explore the underlying mechanisms of this effect, examining the role of decision convenience and customer experience. Additionally, we elaborate on Gahler et al.'s (2023) unified six-dimensional customer experience measure that applies across different interaction contexts, touchpoints, and journey stages. Fourth, we examine the moderating effect of human-enabled personalization (HEP) on these relationships.

Conceptual framework

We examine the framework developed by Grewal et al. (2023b), specifically focusing on TEP as an in-store technology. We expand this framework by assessing how TEP can enhance efficiency and improve experiences in brick-and-mortar stores, considering both customer and employee perspectives.

The Mediating Role of Convenience and Customer Experience

To create in-store experiences that are difficult for online retailers to replicate, retailers must invest in personalization and convenience (Grewal et al., 2023a). In-store technologies that remove friction (i.e., inconvenience) may also enhance customer experiences (Grewal et al., 2023b). Customers seek convenience during shopping to enhance their overall experience (Weidig et al., 2024). Furthermore, Lemon and Verhoef (2016) emphasized that customers' assessment of their experiences directly influences key outcomes such as customer loyalty.

The Moderating Role of HEP

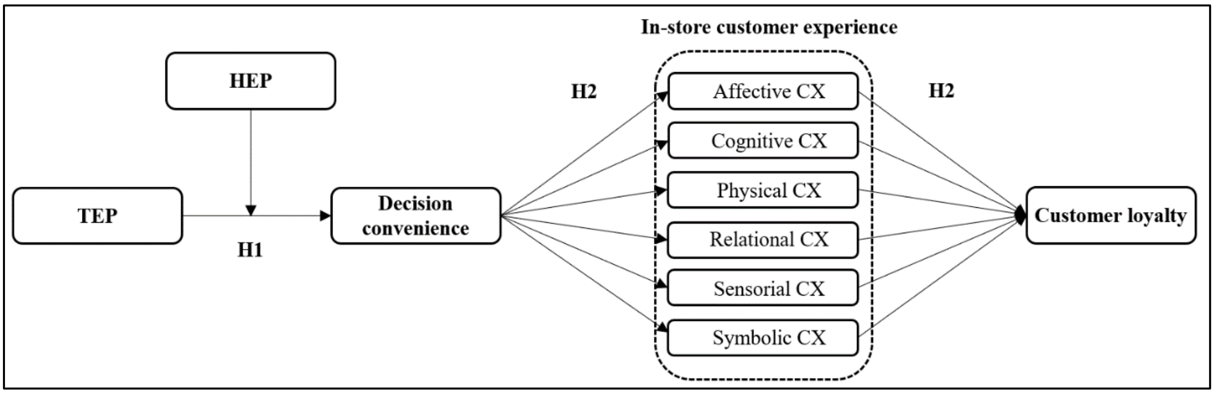
While TEP can enhance efficiency and experience, its effectiveness depends on the presence or absence of HEP. The staff presence-absence paradox highlights consumers' conflicting preferences for HEP. While some prefer independent shopping, others seek human interaction (Riegger et al., 2021). Technology can substitute human interaction in service contexts (Sheng et al., 2024). As per Marshall's (1890) substitution concept, TEP can replace HEP when absent but adds little value when HEP is present due to the redundancy effect (Jones & Zaksaite, 2018).

Based on the existing literature, we propose the following hypotheses (see Figure 1 for the conceptual model):

> **H1:** The effect of TEP (vs. no TEP) on decision convenience (a), customer experience (b), and customer loyalty (c) is moderated by HEP in such a way that TEP only has a positive effect when HEP is absent.

> **H2:** There is a serial and parallel mediation such that TEP in the absence of HEP enhances decision convenience, which subsequently improves different dimensions of in-store customer experience, ultimately driving customer loyalty.

Figure 1. Moderated serial and parallel mediation model



Note. Product category involvement was included as control variable.

Methodology

Our research adopts a mixed-method approach, combining qualitative (Study 1) and quantitative data (Study 2 & Study 3). Across all three studies, TEP was implemented using a tablet with a built-in 3D scanner in a high-end lingerie store. For Study 1, we conducted 5 in-depth interviews with employees to investigate the experienced and expected effect of TEP in the presence of HEP, which refers to personalization delivered by frontline employees (Canhoto et al., 2023), on both employees and customers in brick-and-mortar stores. We asked the participants open and sentence completion questions. In Study 2, we conducted a between-subjects field experiment (N=97) to assess the real-world impact of TEP (vs. no TEP) on customers in the presence of HEP. Participants were regular store visitors who were randomly assigned to one of two conditions (TEP vs. no TEP). We used validated scales to measure our dependent variables. Decision convenience was assessed using Colwell et al.'s (2008) scale and is defined as customers' perceived time and effort required to make service-related purchase or usage decisions (Berry et al., 2002). Customer experience was measured using Gahler et al.'s (2023) six-dimensional scale, capturing a customer's subjective, multidimensional response to an interaction at a specific touchpoint (Gahler et al., 2023). Customer loyalty was assessed with Zeithaml et al.'s (1996) scale and refers to a deeply held commitment to repurchase a preferred product or service despite potential influences to switch (Oliver, 1999). We also included product category involvement as a control variable, measured using Strazzieri's (1994) scale. Furthermore, we also tracked the purchases of the customers who participated in this study. Study 3 builds further on Study 2 by introducing two additional conditions (HEP vs. no HEP). This scenario-based experiment (N=475) allowed for a more controlled and comprehensive measurement of customers' responses to TEP. Participants were recruited through social media or e-mail and were randomly assigned to one of the four scenarios. Study 3 used the same measurements as Study 2.

Findings

Study 1: Interviews

The findings of Study 1 suggest that TEP – in the presence of HEP – might generate efficiency gains for employees and improve customer experiences. TEP – in the presence of HEP – might generate efficiency gains by reducing the time spent on determining the correct product size and providing personalized recommendations. Following these time efficiency gains, the employees expected higher sales due to more products being presented and/or customers experiencing a better fit and thus choosing to buy more items.

We found no direct indication of efficiency gains for customers. However, efficiency gains for employees might indirectly affect customers (Grewal et al., 2023b). For instance, by achieving the correct product size more quickly, the consumer might be indirectly affected due to the personalized advice being provided more quickly. In addition, while respondents did not explicitly state that the technology improved their employee journey, the technology might give employees a clear starting point for finding the perfect product for their customers. This may enable them to personalize the shopping experience more effectively.

Furthermore, the findings suggest that employees might also signal additional positive expected effects on the overall store image, competitor differentiation, and customer loyalty.

Study 2: Field experiment

The findings of Study 2 reveal no significant effects of TEP – with the presence of HEP – on decision convenience, the six customer experience dimensions, or customer loyalty. Additionally, the results suggest that participants spent more on average when TEP (vs. no TEP) was used. These findings are in line with Study 1, where employees expected that customers using TEP would spend more. However, the ANCOVA test revealed no significant differences between the two conditions (TEP vs. no TEP).

In this study, isolating the effects of TEP was not possible due to the constant presence of HEP. Therefore, we conducted a subsequent study (Study 3) exploring the consumer perspective on a broader scope by incorporating two additional conditions (HEP vs. no HEP).

Study 3: Scenario-based experiment

The findings of Study 3 reveal that TEP – in the absence of HEP – enhances decision convenience and customer loyalty. However, when HEP is present, TEP has no significant impact on these outcomes, supporting H1a and H1c. Regarding customer experience, no significant interaction effects were found, leading to the rejection of H1b.

Results from our customized PROCESS model (Hayes, 2022) indicate a significant interaction effect of TEP and HEP on decision convenience, showing that TEP has a positive effect only when HEP is absent. This increased decision convenience triggers parallel mediation pathways, enhancing four dimensions of customer experience. Ultimately, higher levels of affective, cognitive, sensorial, and symbolic experiences contribute to greater customer loyalty. These results support H2. Furthermore, the results indicate that the cognitive dimension not only has the most substantial impact on customer experience through decision convenience but also plays a crucial role in driving customer loyalty in personalized retail environments.

Contributions

Our research advances the literature on in-store technologies, personalization, and customer experience by exploring the dynamic interplay between TEP and HEP. We emphasize HEP's moderating role in shaping customer outcomes, revealing when TEP adds value and when it becomes redundant. By incorporating HEP as a moderating factor, we offer a deeper understanding of how technology and human interaction influence customer outcomes. Our findings show that TEP positively impacts decision convenience and customer loyalty only in the absence of HEP.

While prior studies focus primarily on consumers (Grewal et al., 2021; Grewal et al., 2023b), we examine how TEP influences both customers and employees. Our findings show that consumer-facing technologies (i.e., TEP), when combined with HEP, can also enhance employee efficiency.

While existing literature highlights the importance of examining the impact of technology-enabled in-store personalization on customer experiences (Gahler et al., 2023) and customer loyalty (Grewal et al., 2023b), our study provides empirical evidence reinforcing that TEP – in the absence of HEP – indirectly enhances overall customer experiences via decision convenience, ultimately fostering greater customer loyalty. By demonstrating how TEP can affect customer experiences, our research expands the understanding of the personalization-customer experience relationship, an area that remained underdeveloped (Lambillotte et al., 2022). We further advance customer experience research by measuring customer experience as a six-dimensional construct rather than unidimensional, which tends to overlook its complexity and the varied ways in which consumers interact with personalized in-store technologies (Gahler et al., 2023). By conceptualizing customer experience as a multidimensional construct encompassing six key dimensions, our study provides a more comprehensive understanding of how TEP can influence the customer experience.

Practical implications

Our findings offer valuable contributions for brick-and-mortar retailers who are seeking to adapt their strategies and business models to the evolving retail landscape. By gaining insights into how in-store technologies, especially those facilitating personalization (i.e., TEP), affect employee and customer outcomes, retailers can make more informed decisions regarding technology investments. This knowledge helps develop innovative strategies to create in-store experiences that are difficult for their online competitors to replicate. Our research shows that TEP – in the presence of HEP – does not enhance customer efficiency; it appears to lead to an increase in average sales, even though the effect is not significant. However, when HEP is absent, TEP does create significant value for customers by indirectly enhancing overall customer experiences via decision convenience, ultimately fostering greater customer loyalty. This suggests that investing in TEP can be valuable for retailers, either to improve employee efficiency or to serve as a substitute for personalized service when staff assistance is not feasible.

Research limitations and outlook

While this research provides valuable insights into TEP in brick-and-mortar retail settings, several limitations present opportunities for future exploration. Firstly, our studies are limited to a single product category – lingerie – restricting their generalizability. As a female-targeted product, only female participants were studied. Future research should explore TEP across diverse retail sectors and consumer groups to provide deeper insights into the effects of TEP. Secondly, our study focuses on a single pre-purchase touchpoint, limiting insights into TEP's broader impact. Future research should explore TEP across the entire shopping journey, including entrance displays, interactive shelves, checkout areas, and customer service desks that enable personalization, to better understand its effects on decision-making, experience, and loyalty. Lastly, the technology used in our empirical studies cannot be considered a fully representative example of TEP, as it lacks historical data integration (Riegger et al., 2021). Incorporating historical data could offer deeper personalization efforts and potentially lead to different or more enhanced effects on customer outcomes, making this an important avenue for future research.

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Unattended, Autonomous Retail Stores and the Vitality of Rural Centres

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Introduction and Purpose

For several decades, the retail industry and its environment have faced continuous transformations – a process that has been exacerbated in the era of online retailing and driven by consumer demands for greater convenience. Wide ranging economic and demographic changes have contributed to market-specific pressures leading to seismic strategic shifts across the industry (LeDoux and Vojnovic, 2013; Wrigley *et al.*, 2019). The effect of corporate food store development on the vitality and viability of traditional towns has been a long-standing theme within economic geography, with studies informing public policy (e.g. Wrigley *et al.*, 2019). More recently, pressures on small towns have increased based on the global financial crisis and the effects of Covid-19 (Ntounis et al., 2023). Small towns are struggling with high levels of retail vacancy and face an urgent challenge to right-size and require planning priorities that promote resilience (Powe and Oswell, 2022; Wrigley and Dolega, 2011).

In particular, the grocery retail sector has seen forays into online ordering and delivery, extensive store format innovation and changing store network provision affecting the balance between metropolitan centres and rural areas (Thibodeaux, 2019). This restructuring has created geographical regions with inadequate food supply – commonly referred to as 'food deserts' (Bitler and Haider, 2011; Adams *et al.*, 2010; Dennis *et al.*, 2007). Food deserts are defined as predominantly economically disadvantaged regions characterized by small and elderly population, poor education, low income and constrained infrastructure and mobility that importantly lack access to a grocery market selling fresh food (Dutko *et al.*, 2012; Adams *et al.*, 2010; Sinéad Furey *et al.*, 2001; Bromley and Thomas, 1993).

A related change that directly affects the retail industry is increasing digitalization and technological advances both in back office operations and across various customer-facing touchpoints, such as via online ordering or social media marketing (LeDoux and Vojnovic, 2013; Wrigley *et al.*, 2019). These developments provide the basis and opportunity for innovative business models and new forms of retail operation and customer engagement (Badrinarayanan and Becerra, 2019). For instance, unattended, self-service, automatized retail stores are increasingly prevalent (Yao *et al.*, 2020). Initially, rollouts of unattended, autonomous stores appeared in 2017 by Amazon, Alibaba and Jingdong (Grewal *et al.*, 2017), representing a new type of retail operation that combines the physical experience of digital technology with the full self-service of in-store shopping (Yao *et al.*, 2020). Examples of digitalized unattended retail elements are currently found in different goods delivery clusters such as "self-service check out points", "click and collect stations", "walk in vending machines" and more recently "fully unattended stores" such as Amazon Go (Begley *et al.*, 2019). Clearly, unattended, autonomous retail outlets represent an increasingly relevant retail form that remains poorly understood from both an industry and academic perspective.

The nature of the interaction between retail development and the vitality of small towns is complex and context dependent. While it is widely assumed that out-of-centre development has a negative impact on established centres, there is evidence to support the development of grocery stores on the edge and in central locations, provided they are carefully sited (Powe, 2012).

To summarize, existing literature considers food deserts in general, noting their location typically in areas of economic deprivation as lack of access to grocery stores exacerbates these concerns relating to social justice (Adams *et al.*, 2010; Bitler and Haider, 2011; Dutko *et al.*, 2012; Sinéad Furey *et al.*, 2001). Wrigley *et al.* (2019) finds that the development of high quality convenience stores might have the effect of re-localising food shopping and have a pronounced halo effect on the wider micro retail economy through cross shopping activities. Such a finding is interesting in the context of the growth of unattended retail outlets (Grewal *et al.*, 2017; Yao *et al.*, 2020). Further, Demoulin and Djelassi (2016) suggest that unattended, autonomous convenience stores have positive effects on customer satisfaction, patronage and create a more convenient service. Yet, to date, there is no research on the relationship of unattended, autonomous retail outlets on the vitality of rural areas, food deserts and their externalities. This research addresses this research gap. The purpose of this study is to explore external effects of locating unattended, autonomous grocery stores in rural areas with hardly any pre-existing retail infrastructure.

Methodology

The amount of literature dealing with unattended, autonomous retail outlets in rural areas is rather limited, especially in the context of vitality. The research design follows Yin's (2014) approach as it focusses on two rural western European locations that were previously classified as 'food deserts' and subsequently experienced unattended store openings. The exploratory research design involved interviews with stakeholders such as local businesses, local residents, local authorities and focused on self-reported behavioural, observational and attitudinal data. The study has a longitudinal character, including three collection times: before the implementation of the retail outlets, one month after the implementation and 13 months after implementation. This survey method enables the authors to ensure mid- and long-term results and identify relevant consumer perspectives, trends, and behaviours. The sample consists of 27 stakeholders of one unattended, autonomous retailer. In total 81 face to face and telephone semi-structured interviews have been conducted with residents and stakeholders.

The Interview Guide consisted of three sections. First, it was of interest to request knowledge concerning a specific unattended, autonomous retail outlet as well as attitudes towards it. Part two concerned the possible changes and external effects caused by the implementation of the unattended, autonomous stores. It focused on the identification of positive and negative aspects of change. The third section explored the shopping behaviour (current and future) of the stakeholders. The authors transcribed the interviews and undertook content analysis (Mayring, 2015) using deductive and inductive codes. Two independent coders double-coded these data (McHugh, 2012) with the software MAXQDA.

(Preliminary) Findings

The preliminary findings of this project identify significant changes in shopping behaviour and the geography of trade patterns and linked trips, which in turn affect stakeholder views of unattended, autonomous stores.

Consumers self-report significant changes in changes in shopping behaviour. Unattended, autonomous stores are used for small purchases rather than for the weekly shopping trip. In addition, stakeholder may supplement their shopping trip to unattended, autonomous stores with online grocery retailing. There are several geographical aspects to these trends. Unattended, autonomous stores become a node at which local communities socialise, engage and interact that is perceived as valuable. The stores are regarded as offering an accessible and convenient food offer in rural locations which serves to reduce outshopping (driving to stores outside their hometown) and associated car usage. Stakeholders see a potential of lower traffic volumes and reducing environmental impact. In addition, the results indicate increased linked trips, where consumer combine multiple activities, such as grocery shopping and banking matters, into a single trip. This offers increased time optimisation and travel efficiency.

Unattended, autonomous stores appear to influence the economic situation in rural areas both positively and negatively. While some areas may benefit from the changes mentioned above, some others experience stagnation or even decline depending on the branch, e.g. other new retailing formats such as vending machine shops or direct sellers. The findings suggest a facilitation of technological acceptance. Consumers become more accustomed with such digital solutions, increasing the greater acceptance of innovations in general.

Unattended, autonomous stores influence perceptions with stakeholders regarding such stores as a service provider, a place for essential goods and as a re-localiser.

Contributions

This research is the first that examines the external effects of unattended, autonomous retail outlets on consumers and their behaviour in the context of food deserts (Contribution 1). It offers the potential to inform retail strategists regarding the implications of unattended, automated formats for different stakeholder groups in rural communities in particular (Contribution 2). Further, the findings will inform policy makers with an interest in regulating retail development and the sustainability and vitality of rural economies more widely (Contribution 3).

Research limitations and outlook

This paper deals with unattended, autonomous retail outlets in the specific context of grocery shopping. The results only represent the retail sector. As the project focuses primarily on qualitative and self-reported data, future quantitative research would offer further valuable evidence.

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Mapping Circular Economy in Retail: A Bibliometric Study

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Introduction

In a world confronted with the urgent realities of finite resources and environmental impact, the need to transition from a linear to a circular economy (CE) is more pressing than ever. It is increasingly seen as a solution to environmental and socio-economic challenges caused by the overuse of non-renewable resources, rising waste (solid and electronic), pollution (soil, water, and air), and resource shortages (Lieder and Rashid, 2016). The CE concept works on the principle of replacing the linear model of production and consumption that follows a "take-make-dispose" pattern, with a closed-loop circular system. According to (KPMG, 2024) latest circular economy report, only 7.2% of the global economy operates on a circular model despite a worldwide urge to take action and preserve natural resources.

The research around CE started as a concept connected to industrial ecology, but gradually it gained attention as an independent research area within environmental sustainability studies. Not only does it involve around the sustainability and the responsibility towards the natural resources, but it added another dimension which is the importance of the economic benefit with a more human centric approach.

Our main focus in this study is the retail sector due to its pivotal role in driving sustainable consumption and production practices, making it a key enabler of circular strategies through closed-loop supply chains, waste reduction initiatives, and reverse logistics. Growing interest in CE in retail has spawned a body of literature examining this theoretical construct (e.g., Geissdoerfer et al., 2017; Prajapati et al., 2022)

Purpose

The purpose of this work is to explore the CE research in retail and identify the pioneer studies (Ghisellini et al., 2016; Geissdoerfer et al., 2017) along with the emerging topics in order to highlight the different stakeholders that influence the adoption and success of circularity in the retail sector.

Methodology

This study utilizes a strategy of bibliometric to explore the intellectual environment and thematic change of circular economy studies in retailing during the last 7 years. Bibliometric analysis reveals research trends, prominent authors, and networked clusters. The bibliometric information was pulled from WoS, an extremely large scholarly database, by using the query "Circular Economy AND Retail." The search was limited by applying some inclusion criteria: article papers only in the period of January 2018 to February 2025, English-language published, and in the fields of Business, Management and Environmental Science, excluding all types of Engineering approach papers. The search resulted in a total of 232 records. A systematic process of screening was conducted following the PRISMA protocol to allow for inclusion of the relevant studies while being rigorous and transparent. After the elimination of duplicates and irrelevant documents, the final dataset comprised 112 articles.

The VOSviewer was used for the co-citation analysis, keyword mapping of co-occurrence, and visualization of networks that identified dominant research clusters. Co-citation analysis helped to identify influential works in the field, while the keyword analysis highlighted emerging topics and research trends.

Findings

A bibliometric analysis using VOS viewer has allowed for the identification of key authors, co-citation networks, and research clusters, highlighting the theoretical foundations and intellectual development of circular economy research in retail.

Research clusters

the keyword co-occurrence network revealed four primary thematic clusters:

- Cluster 1: Sustainability and business models
- Cluster 2: Supply chain management and performance
- Cluster 3: Consumer behavior
- Cluster 4: Barriers and Challenges in Circular Economy

Dominant themes

The findings show that sustainability is a dominant theme in retail circular economy research, underlining the move from linear towards circular business models (Vadakkepatt *et al.*, 2021). Incorporating circular strategies, such as product life extension, reuse, and waste reduction, has proven to be a necessity instead of a "way to go". Collection programs, refill and resale schemes, and reverse logistics networks have emerged as considerable mechanisms for monetizing used and returned merchandise reinforcing the role of retailers as key enablers of circularity.

Studies emphasize the use of digital technologies such as blockchain traceability for products, artificial intelligence-based demand forecasting, and IoT-based inventory management (Centobelli *et al.*, 2022). These technologies are helping companies to streamline inventory management, minimize waste, and facilitate better coordination among suppliers and retailers (Vadakkepatt et al., 2021).

Although, common challenges include high operational costs, an uncertain legal framework, and resistance from consumers and businesses alike Kirchherr et al., 2017, Bernon et al., 2018 and Borrello et al., 2017 recognize logistical and financial constraints as key hindrances to CE adoption. To overcome these barriers, collaboration between stakeholders, policy reforms, and technological advancements is necessary to create more efficient, cost-effective CE systems (Merli et al., 2018).

Contributions

Considering different researches analysing the CE and Retailing, this paper is the first bibliometric analysis to explore the CE in retail. Providing a mapping for the key authors, keywords and temporal evolution of themes and emerging trends.

This bibliometric analysis is aimed at synthesize relevant research papers in the field of CE in retail, to guide the researchers who will address this field in the future, and to highlight factors contributing to the success of CE in retail and the evolution of management solutions to face cost, logistical and ethical challenges. Several recommendations for the scalability of CE are also demonstrated. This research offers a clear and holistic approach to the CE in retail, its main trends and the development of the research in circular business models to respond to managerial challenges.

Practical implications

Several managerial implications can be drawn from the results of the bibliometric analysis as it is particularly important for engaged parties to know their influence on consumer acceptance of circular practices. Furthermore, we highlighted practical recommendations to shareholders regarding the adoption of CE in retail with the technology revolution.

Subsequently, the paper revealed business models enabling the development of the sector along with a 360° view of barriers hindering the expansion and scalability of sustainable practices.

Social implications

As this paper discusses sustainability, social implications can be provided which also affect consumer behavior and the public economy. Research results help companies increasingly engage in CE practices which in turn, raise the consumer awareness about the importance of preserving natural resources.

Research limitations and outlook

While this study has generated new insights for CE research in retail, there are limitations that should be mentioned**.** The bibliometric approach relies on accurate keyword selection and indexed databases, potentially excluding relevant studies. Text-mining focused on highly cited papers, which may overlook newer or region-specific research, especially outside the WoS database. Additionally, the study does not cover all possible CE concepts. Further, empirical testing is also necessary, and future studies must include case studies, survey-based studies.

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Appendix: The 30 most cited papers of the bibliometric analysis

Title	Author (s) (year)	Journal	Citations	Key Ideas	Study Type
Sustainable Retailing	Vadakkepatt et al. (2021)	JR	106	Retailers play a crucial role in sustainability by linking upstream suppliers and downstream consumers, enabling circular economy practices.	Theoretical Study
Performance evaluation of reverse logistics in food supply chains in a circular economy using system dynamics	Kazancoglu et al. (2021)	BSE	95	Reverse logistics in food supply chains significantly contributes to environmental performance, reducing waste and emissions.	Empirical Study
Consumers' Value and Risk Perceptions of Circular Fashion: Comparison between Second-hand, Upcycled, and Recycled Clothing	Kim et al. (2021)	SUS	99	Consumer's perception of value and risks varies from second-hand to upcycled, and recycled clothing; emotional value has the strongest influence.	Empirical Study
Sustainable reverse supply chains and circular economy in multichannel retail returns	Frei et al. (2020)	BSE	73	Retail returns management lacks a sustainable approach; strategies must be adopted to align with circular economy principles.	Qualitative Study
Spanish SMEs' digitalization enablers: E-Receipt applications to the offline retail market	Gavrila and De Lucas Ancillo (2021)	TFSC	66	Digitalization enables SMEs to compete with e-commerce platforms through cloud solutions and business model transformation.	Exploratory Study
Role of customers in circular business models	Mostaghel and Chirumalla (2021)	JBR	67	Examines customers' purchase intentions in circular business models and identifies key factors influencing ethical consumption.	Theoretical Study
A digitally enabled circular economy for mitigating food waste: Understanding innovative marketing strategies in the context of an emerging economy	de Souza et al. (2021)	TFSC	57	Investigates how supermarkets use digital technologies like Big Data to reduce food waste and enhance sustainability.	Empirical Study
The role of product history in consumer response to online second-hand clothing retail service based on circular fashion	Kim et al. (2021)	JRCS	56	Examines how providing product history affects consumer trust and perception of second-hand fashion.	Experimental Study
Determinants of consumer demand for circular economy products. A case for reuse and remanufacturing for sustainable development	D.Hunka et al. (2021)	BSE	52	Explores consumer demand for reused and remanufactured products using experimental methods.	Empirical Study
A sustainable step forward: Understanding factors affecting customers' behaviour to purchase remanufactured products	Alyahya et al. (2023)	JRCS	49	Identifies factors affecting consumer purchase decisions for remanufactured products.	Comparative Analysis
Shedding light on sharing economy and new materialist consumption: An empirical approach	Alonso-Almeida et al. (2020)	JRCS	47	Explores how the sharing economy is reshaping consumer materialism, leading to a shift from ownership to experience-based consumption.	Empirical Study
Antecedents of Blockchain-Enabled E-commerce Platforms (BEEP) adoption by customers - A study of second-hand small and medium apparel retailers	Jain et al. (2022)	JBR	43	Examines factors influencing consumers' adoption of blockchain-enabled e-commerce for second-hand apparel.	Empirical Study
Actual consumers' response to purchase refurbished smartphones: Exploring	Nasiri and	JRCS	42	Analyses consumer sentiments in online reviews to identify factors affecting	Empirical Study

perceived value from product reviews in online retailing	Shokouhyar (2021)			satisfaction with refurbished smartphones.	
Reusing Food Waste in Food Manufacturing Companies: The Case of the Tomato-Sauce Supply Chain	Secondi et al. (2019)	SUS	41	Examines how food waste can be repurposed within the supply chain to enhance sustainability.	Empirical Study
Family Businesses Transitioning to a Circular Economy Model: The Case of Mercadona	Núñez-Cacho et al. (2018)	SUS	42	Investigates how family businesses adopt circular economy models, focusing on Mercadona as a case study.	Theoretical Study
Sustainable reverse logistics practices and performance evaluation with fuzzy TOPSIS: A study on Indian retailers	Sharma et al. (2021)	CLSC	36	Evaluates reverse logistics practices of Indian retailers using Fuzzy TOPSIS and identifies key parameters for performance optimization.	Empirical Study
Global Research Trends in Consumer Behavior and Sustainability in E-Commerce: A Bibliometric Analysis of the Knowledge Structure	Rita and Ramos (2022)	SUS	36	Analyses global research trends on sustainable consumer behavior in e-commerce through a bibliometric approach.	Theoretical Study
Practical solutions for circular business models in the fashion industry	Dragomir and Dumitru (2022)	CLSC	37	Examines circular business practices in the fast fashion industry based on sustainability reports from global brands.	Empirical Study
How does the retailing industry decide the best replenishment strategy by utilizing technological support through blockchain?	Saxena and Sarkar (2023)	JRCS	33	Proposes a blockchain-RFID hybrid model for improving replenishment strategies in retail supply chains.	Empirical Study
Major Shifts in Sustainable Consumer Behavior in Romania and Retailers' Priorities in Agilely Adapting to It	Purcarea et al. (2022)	SUS	27	Investigates shifts in sustainable consumer behavior in Romania and how retailers adapt to these changes.	Empirical Study
Factors explaining shared clothes consumption in China: Individual benefit or planet concern?	Khan et Rundle-Thiele (2019)	IJNVSM	29	Investigates consumer motivations for using online shared clothing platforms, examining economic and environmental concerns.	Empirical Study
Reducing waste management challenges: Empirical assessment of waste sorting intention among corporate employees in Ghana	Adu-Gyamfi et al. (2023)	JRCS	25	Examines corporate employees' motivations for waste sorting, integrating environmental consciousness and hedonic motivations.	Empirical Study
Impacts of logistics service quality and energy service of Business to Consumer (B2C) online retailing on customer loyalty in a circular economy	Zheng et al. (2022)	SETA	22	Examines how logistics service quality and energy efficiency impact customer loyalty in online retail.	Empirical Study
Towards circular economy in the agrifood sector: Water footprint assessment of food loss in the Italian fruit and vegetable supply chains	Agnusdei et al. (2022)	EI	23	Analyses water footprint linked to food loss in Italy's fruit and vegetable supply chains.	Empirical Study
The challenge of remanufactured products: The role of returns policy and channel structure to reduce consumers' perceived risk	Confente et al. (2021)	IJPDLM	23	Examines the impact of return policy leniency and distribution channels on consumer acceptance of remanufactured products.	Empirical Study
Street food traders, farmers and sustainable practice to reduce food waste in the Italian context	Alfiero et al. (2020)	BFJ	22	Analyses how food waste management affects performance and sustainability in street food markets.	Empirical Study
COVID-19 demand-induced scarcity effects on nutrition and environment: investigating mitigation strategies for eggs and wheat flour in the United Kingdom	Trollman et al. (2021)	SPC	20	Examines how consumer behavior during COVID-19 affected food shortages and environmental impacts.	Empirical Study
Identifying the motivating factors to promote socially responsible consumption under circular economy: A perspective from norm activation theory	Sajjad et al. (2024)	JRCS	19	Investigates consumer motivations for purchasing circular products using Norm Activation Theory.	Empirical Study

Commercial used apparel collection operations in retail supply chains	Cai et al. (2020)	EJOR	19	Analyses used apparel collection (UAC) programs in fashion retail and their economic impact.	Empirical Study
Drivers and barriers to fashion rental for everyday garments: an empirical analysis of a former fashion-rental company	Bodenheimer et al. (2022)	SSPP	19	Analyses the failure of an online fashion rental company and its business model challenges.	Empirical Study

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A consumer perspective on sustainable last mile delivery[1]

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Keywords

Last-mile, ecommerce, sustainability, packaging, environmental concern.

Introduction

Online retail has been capturing a greater share of retail sales. In 2024 online sales accounted for 17% of retail sales worldwide (Coppola, 2025). This has environmental consequences. Home delivery (HD) in B2C e-commerce increases CO_2 emissions due to its capillarity, demand for fast delivery, and failed delivery attempts. The rise of omni-channel retailing, which integrates offline and online channels, creates new opportunities for more efficient and sustainable last-mile delivery options (Klein and Pop, 2022). Click&Collect (C&C) has emerged as a delivery option that allows retailers with physical stores to save costs and compete more effectively with online retailers. C&C is also a way to save transportation to consumers' homes and thus could be a more sustainable delivery mode (subject to consumers' travel mode) (Buldeo Rai et al., 2023).

An additional impact of last-mile delivery comes from the amount of packaging waste, which is neither reusable nor biodegradable (Koch et al., 2022). As Peng et al. (2022) point out, research on last-mile sustainable packaging has focused on HD, ignoring other alternatives based on the integration of online and offline channels such as C&C. Consequently, more research is needed.

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Purpose

This paper aims to examine how sustainable packaging and the disclosure of environmental impact information of last mile delivery influence consumer preferences for C&C versus HD. Furthermore, it explores the moderating role of environmental concern in shaping these effects.

Conceptual framework

Consumers increasingly demand eco-friendly packaging from retailers, as it signals the retailer's commitment to reducing environmental impact and aligns with consumers' environmental values. According to goal-framing theory (Lindenberg and Steg, 2007), when normative goals such as acting in an environmentally responsible way are activated, they can dominate decision-making over competing goals like convenience. Thus, when consumers place an online order, they are expected to favour C&C when this option is presented as more sustainable in terms of packaging compared to HD.

However, online consumers still often lack adequate information on the sustainability impact of their behaviour. The norm activation model (Schwartz, 1977) suggests that awareness of how our actions affect others activates personal norms, creating a moral obligation to act responsibly. Providing information about the environmental impact of delivery options makes the trade-offs between convenience and sustainability explicit, encouraging consumers to choose the less polluting option.

Furthermore, when retailers disclose such information, consumers are more likely to recognize that sustainable packaging is a key environmental measure. This makes the environmental benefit more tangible and increases the perceived value of choosing C&C. Finally, consumers with higher environmental concern tend to show stronger responses to sustainable practices, meaning their preference for sustainable packaging and eco-friendly delivery options is amplified.

Methodology

A survey-based experiment was conducted to test the hypotheses, manipulating two factors: sustainable packaging for C&C and disclosure of HD's environmental impact. Data was collected via an online questionnaire administered by a market research institute, targeting urban online fashion shoppers using gender and age quotas. The valid sample comprised 360 respondents (90 per scenario). Participants faced a scenario where they shopped online for sneakers (€100, no shipping costs) and had to choose between C&C and HD, with varying information: sustainable packaging for C&C (yes/no) and disclosure of C&C's higher sustainability (provided/not provided). Environmental concern was measured using a seven-point Likert scale from Goh and Balaji (2016).

Findings

A binary logistic regression analysis was conducted using a forward selection stepwise method. The dependent variable was the delivery option decision (C&C or HD), while independent variables included the retailer's use of sustainable packaging and disclosure of environmental impact information. Manipulation checks confirmed that both factors were perceived differently across scenarios.

Results indicated a good model fit and reasonable predictive accuracy. Findings showed that sustainable packaging alone did not significantly influence consumer choice for C&C. However, when consumers were environmentally concerned, sustainable packaging positively affected C&C selection. Disclosure of environmental impact information significantly increased the likelihood of choosing C&C, and this effect was further strengthened among environmentally concerned individuals. No significant interaction was found between packaging and information disclosure.

Contributions

Our conclusion on the moderating role of environmental concern reinforces the key role environmental attitudes play in sustainable consumption (Moshood et al. 2022; Kerber et al., 2023). This moderating effect, both on sustainable information disclosure and packaging, aligns with goal-framing theory, which suggests normative goals become stronger when values and attitudes are aligned. While prior research highlights growing demand for eco-friendly packaging (Koch et al., 2022), our results show that sustainable packaging in C&C delivery alone does not drive choice. This may indicate that many consumers are not fully aware of packaging's environmental impact, so this practice alone is insufficient to motivate store visits, with convenience probably remaining the stronger driver.

Practical implications

This research offers insights for retailers on promoting greener delivery choices. Disclosing the environmental impact of delivery options can encourage consumers to choose C&C, benefiting retailers through lower logistics costs and potential in-store purchases. Informing about sustainable packaging can also help, but mainly among environmentally concerned consumers.

Social implications

Sharing information on delivery impacts and sustainable packaging can shift behaviour, but not all messages are equally effective. Highlighting HD transport emissions is likely to have broader impact, while packaging appeals mainly to green-minded consumers. These changes could help reduce e-commerce's carbon footprint.

Research limitations and outlook

Future research should test other product categories, consider different delivery times, and examine the credibility of sustainability claims, which may affect consumer trust and choices.

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Trends and Future Research Directions in Management Control for Sustainable Retail

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Keywords

Management control; Sustainability; Retail; Supply chain; Governance

Introduction

Retailers worldwide face rising societal, regulatory and consumer pressures to embed sustainability throughout their operations. Scholarship on the subject has burgeoned, yet insights remain fragmented across topics such as supply-chain auditing, branding or operational eco-efficiency. The literature therefore lacks an integrative perspective on how management control systems (MCS) can orchestrate and align these disparate initiatives.

Purpose

The purpose of the literature review is to (1) map current knowledge at the intersection of management control, sustainability and retailing; (2) synthesize the evidence into a holistic framework of control types; and (3) outline future research and practice agendas aimed at accelerating sustainable transformation in retail.

Conceptual framework

Drawing inductively from the reviewed studies, seven distinct but inter-connected control levers were identified: cost, operational, supplier, governance, bureaucratic, financial and administrative controls. Together they form a multi-level "control web" spanning internal processes and external networks. The framework highlights how strong links (e.g., cost-finance-administration) can reinforce sustainability ambitions, whereas weak links (e.g., governance–supplier) expose implementation gaps.

Methodology

Following PRISMA and systematic literature review guidelines (Tranfield et al., 2003) Scopus and Web of Science were searched (keyword string *retail* AND *control* AND *sustainab*). After duplicate removal and screening against quality and relevance criteria, 98 peer-reviewed articles published up to May 2024 were retained. Each article was coded for definitions, theoretical lens, method, context and findings; clustering techniques then revealed thematic patterns.

Findings

The review shows that quantitative designs still dominate, but qualitative and conceptual contributions represent a considerable share, signalling a healthy methodological pluralism. Geographically, evidence is heavily skewed toward Europe and North America, leaving developing and emerging retail contexts underrepresented. Five broad thematic clusters emerge—supply chain, consumer, management, policy and production—demonstrating the breadth of MCS application in retail sustainability. Bringing these strands together, the proposed seven-lever framework illustrates how different control mechanisms interact, where productive synergies arise and where misalignments stall progress. In particular, bureaucratic control surfaces as a pivotal hub linking internal efficiency with external compliance demands, while the governance–supplier interface remains the weakest link in most current arrangements.

Contributions

Theoretical: The review unifies dispersed evidence into a coherent typology, extending MCS-package theory (Malmi & Brown 2008) to the sustainability context and highlighting under-examined interfaces between control types. *Empirical*: It provides the first comprehensive map of methodological and regional coverage, revealing blind spots such as emerging markets and experimental designs. *Practical*: The framework offers retailers a diagnostic tool to assess the completeness and coherence of their sustainability-control architecture.

Practical implications

For practitioners, the findings underscore the importance of aligning strategic intent with day-to-day control practices. Boards can use the framework to ensure that financial, operational and governance controls pull in the same sustainable direction instead of working at cross-purposes. Strengthening the weak governance–supplier link is critical; doing so calls for incentive contracts, joint KPI dashboards and greater transparency platforms that allow retailers and upstream partners to co-manage sustainability risks. Integrating ESG metrics into existing financial dashboards translates long-term goals into daily decisions and heightens managerial accountability. Finally, store-level capability-building—focused on administrative routines such as waste sorting, energy monitoring and staff training—can unlock quick wins that cumulatively bolster corporate-level sustainability performance.

Social implications

Robust MCS can turn sustainability from a compliance exercise into a driver of fair labour conditions, emission reduction and responsible consumption. By exposing trade-offs (for example, cost versus carbon) and inequities (such as power imbalances along global value chains), the framework encourages more inclusive, justice-oriented retail models and can inform both public policy and industry self-regulation.

Research limitations and outlook

The review is restricted to English-language, peer-reviewed sources; grey literature and non-English studies may surface additional insights. Future work should broaden empirical contexts to Latin American, African and Asian retail ecosystems, embrace mixed methods—combining longitudinal ethnography with big-data analytics and field experiments—and probe the role of emerging technologies such as AI-enabled accounting. A deeper examination of managerial motivations could also shift the focus from *how* firms implement sustainability controls to *why* they pursue (or resist) ambitious goals.

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Business models for the circular economy in the fashion industry

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Keywords

Circular economy, fashion industry, open innovation, business model

Introduction

In the face of escalating global uncertainties and dynamic markets, the business landscape is undergoing unprecedented challenges. The fashion industry stands out as a major contributor to environmental degradation, accounting for 5-10 percent of worldwide CO_2 emissions. For example, Switzerland alone generates 50,000 tons of waste annually from discarded clothing and textiles, highlighting the pressing need for sustainable solutions. Since 2000, global clothing production has doubled (Bocken et al., 2021), yet a mere 1 percent of garments are fully recycled within the existing linear textile value chain (Pusceddu, 2023).

Recognizing these issues, the imperative is to explore innovative circular economy models that can yield sustainable and successful outcomes (Koszewska, 2018; Massimiani et al., 2021). Identifying critical success factors become pivotal in this quest. Through a meticulous examination of sustainable approaches, the objective is to develop solutions that not only mitigate environmental impact but are also economically viable for businesses. The industry's call for a paradigm shift necessitates pioneering and strategic models that chart the course for a sustainable and circular future for the fashion sector (Koszewska, 2018). This transformative journey is crucial for steering the industry towards a more responsible and resilient path.

Purpose

The traditional linear business model of the fashion industry (take, make, dispose), coupled with the emerging fast fashion model (rapid response, frequent range changes and fashionable designers at low prices), exacerbates the environmental impact. Consumers often treat clothing as a disposable item, which leads to an increasing environmental impact (Agrawal and Smith, 2015). The growing demand for textiles, especially those produced outside the EU, leads to large quantities of disposed clothing, a significant proportion of which is incinerated or sent to landfill.

Recycling of textiles is not widespread (Koszewska, 2018). The fashion industry contributes significantly to pollution and climate change, and this is worsened by population growth, leading to increased pressure on natural resources.

This scarcity of resources will affect the fashion industry as it requires materials such as cotton to produce clothing. At the same time, there is a growing problem with the accumulation of textile waste, as the rapid production and consumption of clothing have created the impression that clothing is seen as a disposable product (Sandvik and Stubbs, 2019). Shortages of resources, fluctuations in the price of raw materials, consumer preferences and regulatory requirements are forcing companies to rethink inefficient production and consumption models (Pusceddu, 2023). Companies that want to introduce circular approaches are faced with complex and disruptive changes. These changes affect numerous stakeholders and require innovative business models. The transition to a circular economy is not just a technological adjustment, but a fundamental redesign of the way products are manufactured, used and recycled (Eisenreich et al., 2021). Also, the European Commission´s circular economy action plan, which introduces both legislative and non-legislative measures and initiatives along the entire life cycle of products, aims at a sustainable transition to a circular economy and encourages sustainable consumption. The action plan is also an important prerequisite to achieve the ambitious EU's 2050 climate neutrality target and to halt biodiversity loss.

Research into innovative and circular business models in the fashion industry is still comparatively young. The majority of the articles available on this topic date back to 2020. This underlines the topicality and growing relevance of this area of research, which is deliberately attracting more and more attention. Nevertheless, there is still a need for more fundamental and applied research and it is pointed out that there is a research gap, particularly with regard to the research question mentioned. This suggests that the research community continues to work on developing a comprehensive understanding of the challenges and potential of circular business models in the fashion industry.

Conceptual framework

With a more circular approach to the reuse of raw materials in the fashion industry from various production steps as well as from returned products, companies could not only achieve significant cost savings in production but also improve control over their supply chain and as well internalize key production steps.

Accordingly, the following research question have been derived:

What key attributes characterize an innovative circular economy business model in the fashion industry, and which critical success factors contribute to companies' success through the implementation of these models?

The aim of this paper is to provide an overview of successful innovative business models in the circular economy business models in the fashion industry, which can be used as a guiding framework for circular companies in other sectors.

Methodology

To investigate the research question mentioned above, a qualitative research approach has been developed, which involves conducting expert interviews.

The research process begins with a comprehensive analysis of literature and documents. Subsequently, two best-practice examples are examined in detail. This is followed by qualitative interviews with experts who possess extensive knowledge in the field of innovative business models in the circular economy of the fashion industry. The selection of experts was carried out through an online survey, with 9 candidates volunteering for the interviews. These individuals were comprised of both representatives from the apparel industry and those with expertise in circular economy. The collected interviews are then subjected to content analysis and compared with the insights from the literature. In the creation of this work, a qualitative research approach takes precedence. Information is gathered from both primary sources, in the form of interviews, and secondary data, such as literature.

Findings

Through the adoption of circular economy principles, the fashion industry has the potential to disentangle revenue generation from resource consumption. This research delves into the innovation of circular-oriented business models within the fashion sector, aiming to comprehend the catalysts behind such innovations and streamline the process (Coscieme et al., 2022). Findings reveal that effective business models embracing circular principles integrate key components like circular design, introduction of new product categories, transparent implementation, sustainable products, and innovative business strategies with early-stage innovation. Robust partnerships, adequate funding, and critical success factors including pricing and persuasive communication are imperative. Despite challenges, financial adaptability is vital. Alternative business models and pioneering sustainability efforts serve as a blueprint for profitability, with successful models bridging the gap between theoretical principles and sustainable practices in the fashion industry. The overarching insights are presented in the final paper.

Contributions

From a theoretical perspective, the drivers of business innovations are identified as the use of technologies, sustainability itself, competitive opportunities in markets, as well as finances and politics. These mentioned drivers for business model innovations can be practically implemented through concrete measures. Circular design plays a central role, allowing the transformation of old products into new ones through the choice of specific high-quality materials. The practical implementation of circular design is pivotal in converting old products into new materials. New product categories are explored to harness potentials for the circular economy. Transparency and communication are practically executed to establish credibility through communication with clear and open information about developments and principles. Customer involvement in the product development process is also considered successful. Emphasizing sustainable products in practice means extending the lifespan and ensuring high quality. Innovative business models rely on creativity, commitment, various certifications, and the use of modern technologies as key factors. Competitive advantages can be achieved through early innovation in product development, and the quantitative measurement of ecology and economics considers social and ethical aspects (Bartkutė et al., 2023).

In practice, strong partnerships are as well recognized as crucial, especially in the recycling sector. A success factor of a circular-oriented business model is also characterized by the active participation of users at an early stage with an focus is on information, interaction, and ongoing support. The goal is to unite traditional practices and contemporary approaches, simultaneously creating interaction with the customer and enabling a sustainable approach to the products. Despite the challenges and consistently higher costs in the circular fashion industry, financing the business model aims for at least cost coverage. Successful models strive to increase their profitability in the short to medium term.

Practical implications

In practice, open communication and education, compelling storytelling and authenticity, pricing strategies and revenue sources, as well as transparency and strong commitment are considered significant. A crucial, unanimous foundation is having a well-thought-out business model from the outset that enables a closed loop. This includes, supported by theory, aspects such as product design and ensuring full transparency and traceability in the supply chain. Ongoing collaboration with all key partners and timely optimization of all processes are presumed and deemed critical. Given the industry's challenges, financial flexibility is necessary. Despite the current predominantly lower profitability in the fashion industry, emphasizing alternative business models and pioneering sustainability serves as a model for future sustainable growth. In this combination, successful business models in the fashion industry are viewed as the link between theoretical principles and entrepreneurial practice, embodying real and sustainable measures to mitigate the issues caused by the fashion industry, making them exemplary models for emulation.

Research limitations and outlook

The analysis of companies' responses to new legal requirements and the resulting adaptations represents a promising research area. This involves examining how these changes impact critical success factors—both internally through company-specific measures and externally through evolving legislation. Furthermore, research will need to pay greater attention to how circular business models affect social, environmental, and economic outcomes. To gain a better understanding of the long-term effects of such business models, potential trade-offs and synergies will also be assessed. A promising approach could be to develop recommendations and guidelines for companies, not only to ensure compliance with legal regulations but also to proactively achieve sustainable competitive advantages. The integration of transparency, social engagement, and innovation capability is of great importance. Companies that adapt to these changes early and adjust their business models accordingly can succeed in an increasingly sustainability-oriented economic environment. Overall, research in this field will contribute to the development and implementation of circular business models. This will be achieved not only by responding to current legislative changes but also by anticipating future developments. Research will support companies in developing and implementing sustainable strategies.

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Think big, start small, stay agile, scale fast: *Configuring retail stores in the circular journey*

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Keywords

Circular retail, retail logistics, scalability, circular economy, context, case study

Introduction

The concept of a circular economy has captured the interest of researchers, policymakers, and the retail industry. There is consensus on the need to embrace circularity in retail. However, the path to integrating circular retail services varies among retailers. This journey is shaped by various retail-specific contingency factors that shift significance across different time periods and process stages (e.g., product characteristics, product assortment, logistics network, organizational dynamics, and competitors). Research suggests that retailers often begin with small initiatives, such as in-store recycling or offering resale services, which lay the groundwork for a more substantial transformation (Hultberg and Pal, 2023). Bocken *et al.* (2018) emphasized the importance of experimentation, highlighting the inherent messiness, uncertainty, and learning that accompany the experimentation process in circularity, as well as its iterative nature. Retail stores play a crucial role in this journey. These nodes can serve as spaces for experimentation and idea generation, given their direct interaction with consumers. However, for retail stores to function as experimentation hubs, they must be designed with flexibility and adaptability. Throughout the various stages, the retail store may need to adjust its role and design to accommodate circular retail services. Bocken and Konietzko (2022) emphasize the importance of granting autonomy to local retail stores, as they are best positioned to develop effective strategies for circular retail services. Using a process research approach (Langley, 1999), this study aims to understand how retailers configure their stores to support the scalability of circular retailing over time. By comparing different journeys, this study aims to explore the following research questions:

> **RQ1.** What contingency factors influence the scalability of circular retail services?
>
> **RQ2.** How do retailers configure their retail stores as they gain experience and scale up circular services?

Purpose

The purpose of this study is to understand the adoption and scaling of circular retail services, with a focus on how retailers adapt their store configurations and strategies over time. This study explores the role of retail-specific contingency factors in shaping these journeys. It employs a contingency and process theory lens to understand organizational adaptability, experimentation, and scalability within the circular retail journey.

Conceptual framework

This research is grounded in the literature on the circular economy, logistics, and retail. It draws on two research theories, contingency and process, to develop a scalability model.

The structural contingency theory, proposed by Donaldson (2001), suggests that the relationship between organizational characteristics or configuration and performance cannot be fully understood by examining only these two variables. Instead, a third contingency variable must be considered to explain the how and why of the relationship. Drazin and van de Ven (1985) proposed a system-fit approach to understanding relationships, as this can only be advanced by considering multiple factors, structural alternatives, and performance simultaneously to gain a comprehensive understanding. Because organizations operate in environments with numerous contingencies that conflict with one another, system fit is considered appropriate. Problems arise when an organization faces different factors, each requiring a different design (Child 1977). For example, one factor might suggest keeping operations in-house, whereas another suggests outsourcing. Balancing these conflicting demands forces organizations to make trade-offs, which often lead to a structure that is not ideal and creates internal inconsistencies (Drazin and van de Ven, 1985). For retail in particular, Breugelmans *et al.* (2023) suggest that contingency factors influence the appropriate time and approach adopted by a retail store. External factors, driven by the macro-environment (e.g., political, economic, social, and technological), and internal factors specific to a particular store or function (e.g., sector, location, management, and employees) influence how a retail store implements a new initiative. Furthermore, as Eriksson *et al.* (2019) suggested from a material-handling logistics perspective, internal contingency factors should be further separated into organizational and internal factors. This separation is crucial, as organizations commonly make decisions that influence retail store configuration. However, these cannot be considered internal factors for the store, as control and ownership are at the organizational level rather than the retail store level.

On the other hand, the scalability phases of circular retail can be analyzed through life-cycle theories (van de Ven and Poole, 1995), such as the “Wheel of Retailing” (Hollander, 1960), where sustainability and operational efficiency emerge as key drivers of retail evolution. As circular retail services gain traction and regulations develop, large retail organizations are gradually competing and collaborating with established second-hand rental and repair providers to diversify their revenue streams into circular markets. This shift challenges traditional retail dynamics, as organizations no longer rely only on price-based competition but also integrate resale, rental, and repair services into their operations. Addressing how retail stores physically and operationally develop to accommodate circular services challenges traditional views on market expansion. This integration requires a disruptive transformation of the retail store's role and design to support reverse logistics. Drawing from the literature on circular business model innovation, several stages have been identified: internal experimentation, small-scale experiments in a real-life context, testing all assumptions in a single pilot, and scaling up (Bocken *et al.*, 2018). Sandberg and Hultberg (2021) elaborated on different techniques for scaling from a dynamic capabilities perspective: scaling up through networking, scaling deep by normalizing circularity, and scaling out by developing efficient operations. This topic highlights various configuration strategies for achieving scalability, including maintaining in-house services, outsourcing, and collaborating with partners (Hultberg and Pal, 2021, Stål and Corvellec, 2018).

According to Kembro and Norrman (2020, 2021), the design, operations, and resources of a material-handling node should be tailored to a particular context and configuration goals. In other words, a store’s context, role, and purpose are crucial factors that must be considered when configuring it. Additionally, retail stores need to be designed considering their operations, layout, skills, and technologies (Kembro *et al.*, 2018). This study suggests that the role and design of retail stores should be reconfigured when integrating circular retail services. The type of circular retail service, retail store format, location, operations to be performed in the node, appropriate layout, skills, and technologies. The framework presented in Figure 1 shapes this research.

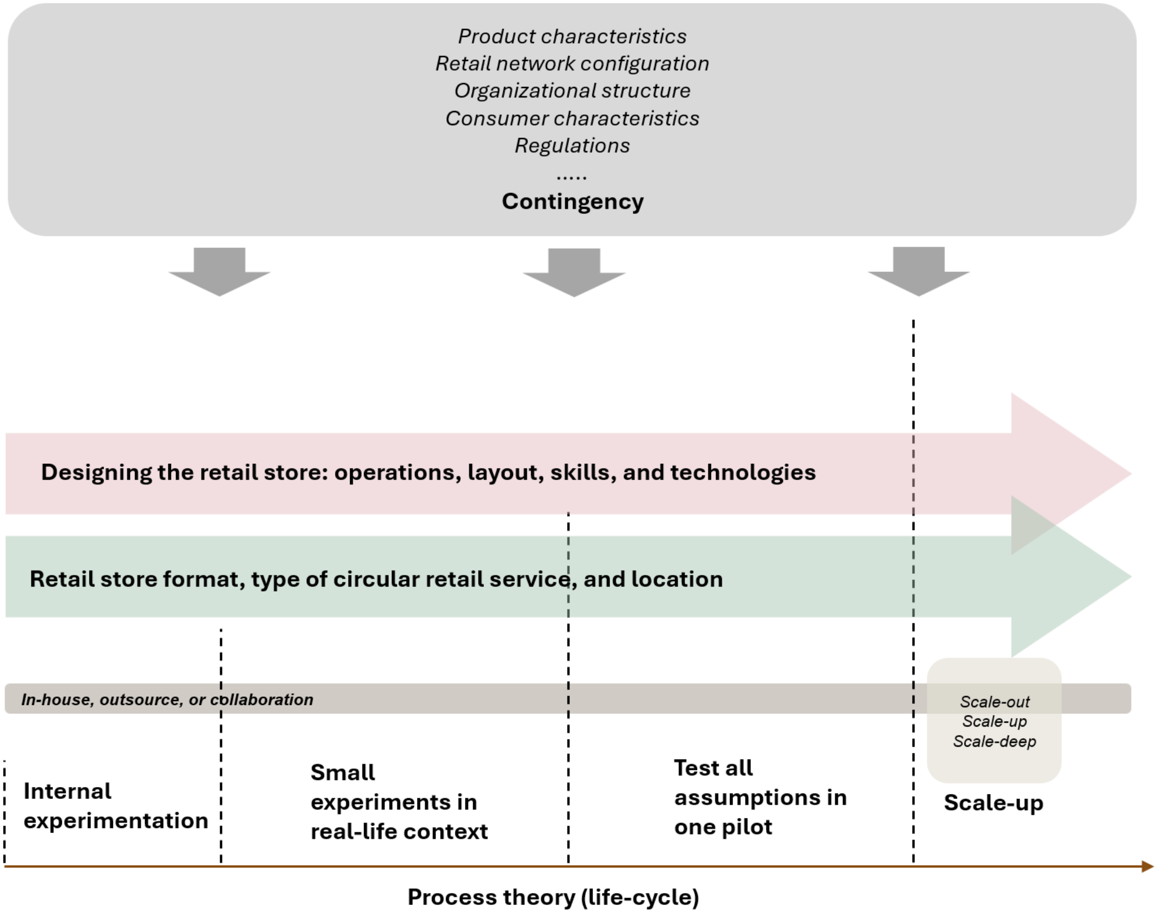

Figure 1 Conceptual framework

Methodology

This study follows a case study method, which enables an in-depth exploration of real-world examples of large retail organizations with physical stores testing circular retail services. Through interviews, observations, and public and internal data, the retailer's journeys are mapped. Then, by asking about the role of the retail store, its design, and what causes the different retail store configurations and journeys to occur. The entities involved, their powers, liabilities, and contingent relationships are identified (Easton, 2010). This study aims to capture data about ongoing, past, and future events (Langley, 1999). The goal is to identify one or more underlying factors that can be considered the cause of these events and explain the different ways in which retailers configure their stores across various phases to achieve scalability. The primary unit of analysis in this study is the retail store configuration along the circular retail journey. The secondary unit of analysis corresponds to contingencies that influence how retail stores are configured.

Multiple case studies of in-store circular retail services across different sectors are analyzed to capture different strategies and experiences. An embedded case study approach is used (Eisenhardt, 2021). For each of the three selected retailers, multiple retail stores are studied. Within each store, circular retail services (resale, repair, and rental) are analyzed separately. This approach recognizes that retailers often experiment with multiple initiatives that evolve in different directions and are positioned at various stages of scalability. Studying circular retail services across different stores within the same retailer allows for the control of certain contingencies (e.g., product characteristics, organizational structure), enabling a better understanding of the retail store configuration for different services and their respective influences. The retailers selected represent a range of product characteristics, including furniture, sportswear, and children's clothing. The furniture retailer offers a wide range of products (e.g., different materials, sizes, and technologies). The sportswear retailer offers traditional bike repair services, known for being scalable and profitable, as well as sports equipment and clothing, which have contrasting characteristics to bikes. Lastly, the children's clothing retailer presents a unique case, as rapid wear and turnover of garments often leave items in better condition for resale, repair, or rental.

The data collected will be initially coded using a priori coding from an inductive theory-building literature review. Then, a conceptually clustered matrix, qualitative timelines, and composite sequence analysis are used to systematically develop within-case and cross-case analysis (Miles *et al.,* 2020).

Findings

Although this research is yet to be conducted, this study speculates that retailers often initiate their journey toward circularity by observing consumer needs or in-store innovations. Later, the offering is established as an in-store service. As demand and capacity grow, decision-making regarding circular services must be assessed by management, triggering the need for adaptations and improvements in the efficiency of retail stores and retail logistics networks. Thus, the configuration of retail stores for circular retail services is seen as a reactive mechanism driven by profitability and scalability. Retail stores with greater flexibility in their designs and operations tend to adopt circular services more quickly and successfully. In addition, this study hypothesizes that store formats and locations significantly impact the scalability of these services, dictating the role of the retail store and its design along the circular retail journey.

Theoretical and managerial implications

This research makes practical and theoretical contributions. Theoretically, it elaborates on our understanding of how circular retail services are adopted and scaled, offering insights into the role of store configurations and contingencies in the process. Our findings suggest that the transition to circular integration is a dynamic journey that requires retail stores to adapt to their specific contexts and maturity stages. This study also challenges the wheel of retail theory by introducing a new perspective that positions sustainability as a driver of retail transformation. Retail store configuration is identified as a key factor in scalability, as it links physical retail design to retail evolution. Practically, it provides guidance for retailers seeking to integrate circular retail services. It presents a framework for retailers to assess their readiness for circularity, position their offerings accordingly, and provide strategies for scaling their initiatives. Retail managers, logistics managers, and policymakers will benefit from the insights provided.

Social implications

The research explores the transition to a circular economy and sustainable consumption, providing insights into policy and the development of retail stores that integrate societal and environmental considerations.

Research limitations

A limitation of this study is the use of case studies, which may not fully represent the diversity of retailers' journeys, thus affecting generalizability. As some of the retailers' future events are based on plans, longitudinal studies are needed.

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Being Subtle: How Implicit Packaging Cues Affect Consumers' Sustainability and Quality Perceptions

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Keywords

Sustainable Packaging, Implicit Packaging Cues, Consumer Perceptions, Lay Theories

Introduction

Packaging design plays a crucial role in the FMCG segment (Bettels et al. 2020). In recent years, there has been a heightened emphasis on sustainability in the packaging industry, aiming to reduce the impact of waste and pollution of packaging. This growing interest in environmental protection has prompted companies to actively contribute to sustainable development by integrating enhanced designs, materials, and marketing strategies into their packaging solutions (Wandosell et al. 2021).

Despite these efforts, many retailers face the substantial challenge of effectively communicating the benefits of more sustainable packaging (Wandosell et al. 2021). Generally, packaging sustainability can be concretely communicated through explicit cues, like labels or claims or through subtle, implicit cues like materials, packaging shapes and color schemes. Explicit sustainability cues have been shown to decrease product quality perceptions due to consumers' lay beliefs about the utilization of company resources (Newman et al. 2014). This research therefore focuses on the role of implicit cues, package material and shape, and their potential to communicate packaging sustainability in a less conscious manner, which in turn should maintain or enhance consumers' product quality perceptions.

Purpose

This study seeks to investigate whether implicit packaging cues mitigate the potential trade-off between sustainability and other product attributes, such as quality. In an online experiment ($N = 630$), we manipulated the implicit cues package material (factor 1: paper vs.

plastic) and shape (factor 2: round vs. edgy) of two product categories (milk and cookies) to assess how these manipulations influence consumers' product quality evaluation. Moreover, we tested how these relationships are mediated by consumers' sustainability perceptions of the packaging.

Conceptual Framework

Theoretical Background

Understanding consumers' product evaluation processes is essential for promoting sustainable packaging that elicits positive consumer responses. While sustainable packaging is generally perceived as a positive attribute (Magnier and Schoormans 2015), consumers often unconsciously associate it with reduced product quality (Mai et al. 2019). This phenomenon, known as the Ethical = Less Strong Intuition (ELSI), poses a significant challenge to the broader acceptance and market success of products with sustainable packaging (Mai et al. 2019).

Lay theories—generalized belief systems that simplify decision-making—offer insight into these perceptions. Examples include taste-related inferences (Raghunathan et al. 2006) and quality-related heuristics (Mai et al. 2019). Lay theories are broad knowledge structures that, while often implicit and unspoken, exert a strong influence on consumer behavior (Soliman and Wilson 2017). They represent ontological assumptions about reality and act as narrative frameworks for interpreting and organizing the world (Gidaković et al. 2022).

Previous research has investigated how sustainable packaging influences perceptions of product quality (Ketelsen et al., 2020). For example, the findings of Jerzyk (2016) indicate that react negatively to packaging changes aimed at environmental protection if they believe these changes compromise product quality. Similarly, Martinho et al. (2015) report that while consumers value sustainable packaging, product quality remains a higher priority. Moreover, perceived quality consistently emerges as a key driver in consumers' choices of sustainable products (Magnier et al. 2016).

Hypotheses

The findings of previous studies suggest that consumers often consider implicit cues as packaging materials when evaluating sustainability (Scott and Vigar-Ellis 2014; Ketelsen et al. 2020). Research on the perceived environmental impact of packaging materials consistently shows that plastic is viewed as the least sustainable, while paper-based materials are seen more favorably, which in turn should positively impact the evaluation of product quality (Steenis et al. 2017; Ketelsen et al. 2020). Hence, we assume:

H1: Paper-based packaging (vs. plastic-based) increases (vs. decreases) product quality evaluations.

It has been suggested that consumers are sensitive to variations in packaging shape. However, research on how packaging shape impacts sustainability and product quality perceptions is limited (e.g., Liem et al. 2022). Existing studies indicate that cartons and rectangular shapes are generally associated with sustainability (Steenis et al. 2017; Liem et al. 2022). While geometrical shapes are considered more transport-efficient than round ones, they are often associated with convenience rather than sustainability (Liem et al.,2022). In contrast, for milk packaging, consumers perceive round, transparent bottles as 'very sustainable' compared to milk in a carton shape, a plastic bottle shape, and a transparent plastic bottle shape (Liem et al. 2022). Therefore, we propose:

H2: Packaging shape will impact product quality evaluations.

One relevant lay theory is the zero-sum heuristic, which suggests that consumers perceive a company’s resources as fixed and finite (Newman et al. 2014). This heuristic leads to the belief that sustainability improvements, such as investments in sustainable packaging, come at the expense of other attributes—most notably, product quality. As a result, consumers’ perceptions of increased packaging sustainability will diminish product quality (Newman et al. 2014). Therefore, we propose:

H3: Consumers’ perceptions of packaging sustainability will mediate the impact of a) packaging material and b) packaging shape on product quality evaluations.

Methodology

The study employs a 2 (factor 1, material: paper vs. plastic) × 2 (factor 2, shape: round vs. edgy) between-subjects experimental design to investigate the direct effect of the implicit packaging cues material and shape on product quality as well as the mediating impact of consumers’ sustainability perceptions, conducted separately for the milk and cookie product categories.

We cover two different categories (milk and cookies) to increase the external validity of our findings. Moreover, these categories can be seen as complements from a consumer perspective but also cover different motives in terms of milk being more utilitarian while cookies are more hedonic. Further milk is liquid, while cookies are not thereby covering different challenges from a packaging perspective.

1,200 U.S. consumers (M_{age} = 46.5 (18,3) years, 50.1% female) have been recruited via Prolific to participate in the study. Participants are randomly assigned to evaluate either a milk or cookie product, with each participant assessing one out of eight packaging designs (four for milk and four for cookies, see Figure 1 for the experimental stimuli in the milk category). After excluding participants who fail the manipulation check (incorrectly identifying the material used in the packaging), the final sample consists of 295 participants for the milk category and 335 participants for the cookie category, yielding a total sample size of N = 630 participants.

Figure 1: Experimental Stimuli in the Milk Category

	Milk	
Stimuli: n = 295	**Round shape**	**Edgy shape**
Paper material		
Plastic material		

Participants have been randomly assigned to one of the different packaging designs either in the milk or cookie category and then had to assess product quality as well as packaging sustainability using the scales of Magnier et al. (2016).

Findings

Main Effects of Packaging Material and Shape on Product Quality Evaluations

We find empirical evidence regarding the proposed impact of packaging material on product quality perceptions across both product categories (milk and cookies), supporting H1.

In the milk category, paper-based material is perceived as having significantly higher quality compared to plastic material ($M_{\text{MilkPaper}}$ = 4.97 (.09), $M_{\text{MilkPlastic}}$ = 4.47 (.11); $F(1,293) = 13.14$, $p < .001$). Similarly, in the cookie category, paper-based material is also rated significantly higher in quality than plastic material ($M_{\text{CookiePaper}}$ = 4.50 (.10), $M_{\text{CookiePlastic}}$ = 3.60 (.08); $F(1,333) = 47.32$, $p < .001$).

Regarding the shape of the packaging, ANOVA analyses across both product categories reveal no significant differences in quality perceptions between edgy and round shapes, not supporting H2. In the milk category, the difference between edgy and round shapes is not statistically significant (M_{MilkEdgy} = 4.87 (.09), $M_{\text{MilkRound}}$ = 4.66 (.10); $F(1,293) = 2.40$, $p = .12$). Similarly, in the cookie category, no significant effect is observed between edgy and round shapes ($M_{\text{cookieEdgy}}$ = 3.95 (.10), $M_{\text{CookieRound}}$ = 3.92 (.09); $F(1,333) = 0.04$, $p = .84$).

Mediating Effect of Perceived Packaging Sustainability

To test H3, which proposes that the impact of a) material and b) shape on consumers' quality evaluations is mediated by perceived packaging sustainability perception, several mediation analyses with the experimental factors as independent variables have been conducted (PROCESS MODEL 4; Hayes 2018).

In the milk category, the effect of material on consumers’ sustainability perception of the packaging is significant and positive ($\beta = 2.88$, $p <.000$). Similarly, the effect of sustainability perception on quality perception is significant and positive ($\beta = .38$, $p <.000$). However, the direct effect of material on quality perception is significant but negative ($\beta = -.58$, $p = .003$). When considering the indirect effect of material on quality perception through sustainability perception of packaging, this effect is positive (1.08), and the total effect is significant and positive ($\beta = .50$, $p <.000$). According to Zhao et al. (2010), these findings can be interpreted as a competitive mediation, partially supporting H3a in the case of our experimental manipulations in the milk category.

In the cookie category, the results follow a similar pattern. The effect of material (paper vs. plastic) on consumers’ sustainability perception of the packaging is significant and positive ($\beta = 3.13$, $p <.000$). The effect of sustainability perception on product quality evaluation is also significant and positive ($\beta = .35$, $p <.000$). However, the direct effect of material on quality perception is negative but insignificant ($\beta = -.20$, $p = .272$). When examining the indirect effect of material on quality perception through sustainability perception of the packaging, the effect is positive (1.10) and the total effect is significant and positive ($\beta = .90$, $p <.000$). In sum, we identified an indirect-only relationship (Zhao et al. 2010), not supporting H3a in the cookie category.

In the milk category, the effect of shape on consumers’ sustainability perception of the packaging is significant but negative ($\beta = -1.33$, $p <.000$). In contrast, in the cookie category, the effect of shape on sustainability perception is positive but insignificant ($\beta = .13$ $p <.546$).

The effect of sustainability perception on quality perception is significant and positive in both the milk category (β = .28, $p < .000$) and the cookie category (β = .32, $p < .000$).

We observe similar patterns when examining the direct, indirect, and total effects in the milk and cookie categories. In the milk category, the direct effect of shape on quality perception is positive but insignificant (β =.16, p = .251). The indirect effect of shape on quality perception through sustainability perception is negative (-.37), and the total effect is negative but also insignificant (β = -.21, p =.123). In the cookie category, the direct effect of shape on quality perception is negative but insignificant (β = -.07, p = .554). However, the indirect effect of shape on quality perception through sustainability perception is positive (.04) and the total effect is significant but negative (β = -.03, p = 842). Overall, we find no empirical support for H3b neither in the milk or in the cookie category.

Contributions

The findings show that paper is perceived as more sustainable than plastic in both the milk and cookie product categories. In the milk category, an edgy shape increases perceptions of sustainability, whereas in the cookie category, no significant difference is observed between edgy and round shapes in terms of sustainability perception.

Overall, the results suggest that implicit cues as indicators of sustainability will positively influence consumers' product quality perceptions. Our findings add to the understanding of the assumptions and implications of lay theories, which have mainly been applied to investigate the effect of explicit packaging cues on consumer response. Contrary to traditional lay theories, our findings indicate that sustainability and quality are inherently not necessarily at odds, showing that implicit packaging cues can positively influence both perceptions simultaneously.

Practical Implications

This study highlights the effects of implicit packaging cues in shaping consumers' perceptions of sustainability and quality. Implicit packaging cues appear to impact the perception of sustainability and quality in specific packaging designs, offering valuable insights and strategic implications for companies aiming to advance overall sustainable development.

Research limitations and outlook

While this research provides new insights into the perception of quality and sustainability in specific packaging designs, further research is needed to examine their subsequent effects on purchase intentions (Newman et al., 2014) and to better understand the boundary conditions that prevent zero-sum heuristics from occurring.

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Being Subtle: How Implicit Packaging Cues Affect Consumers' Sustainability and Quality Perceptions

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Keywords

Sustainable Packaging, Implicit Packaging Cues, Consumer Perceptions, Lay Theories

Introduction

Packaging design plays a crucial role in the FMCG segment (Bettels et al. 2020). In recent years, there has been a heightened emphasis on sustainability in the packaging industry, aiming to reduce the impact of waste and pollution of packaging. This growing interest in environmental protection has prompted companies to actively contribute to sustainable development by integrating enhanced designs, materials, and marketing strategies into their packaging solutions (Wandosell et al. 2021).

Despite these efforts, many retailers face the substantial challenge of effectively communicating the benefits of more sustainable packaging (Wandosell et al. 2021). Generally, packaging sustainability can be concretely communicated through explicit cues, like labels or claims or through subtle, implicit cues like materials, packaging shapes and color schemes. Explicit sustainability cues have been shown to decrease product quality perceptions due to consumers' lay beliefs about the utilization of company resources (Newman et al. 2014). This research therefore focuses on the role of implicit cues, package material and shape, and their potential to communicate packaging sustainability in a less conscious manner, which in turn should maintain or enhance consumers' product quality perceptions.

Purpose

This study seeks to investigate whether implicit packaging cues mitigate the potential trade-off between sustainability and other product attributes, such as quality. In an online experiment (*N = 630*), we manipulated the implicit cues package material (factor 1: paper vs.

plastic) and shape (factor 2: round vs. edgy) of two product categories (milk and cookies) to assess how these manipulations influence consumers' product quality evaluation. Moreover, we tested how these relationships are mediated by consumers' sustainability perceptions of the packaging.

Conceptual Framework

Theoretical Background

Understanding consumers' product evaluation processes is essential for promoting sustainable packaging that elicits positive consumer responses. While sustainable packaging is generally perceived as a positive attribute (Magnier and Schoormans 2015), consumers often unconsciously associate it with reduced product quality (Mai et al. 2019). This phenomenon, known as the Ethical = Less Strong Intuition (ELSI), poses a significant challenge to the broader acceptance and market success of products with sustainable packaging (Mai et al. 2019).

Lay theories—generalized belief systems that simplify decision-making—offer insight into these perceptions. Examples include taste-related inferences (Raghunathan et al. 2006) and quality-related heuristics (Mai et al. 2019). Lay theories are broad knowledge structures that, while often implicit and unspoken, exert a strong influence on consumer behavior (Soliman and Wilson 2017). They represent ontological assumptions about reality and act as narrative frameworks for interpreting and organizing the world (Gidaković et al. 2022).

Previous research has investigated how sustainable packaging influences perceptions of product quality (Ketelsen et al., 2020). For example, the findings of Jerzyk (2016) indicate that react negatively to packaging changes aimed at environmental protection if they believe these changes compromise product quality. Similarly, Martinho et al. (2015) report that while consumers value sustainable packaging, product quality remains a higher priority. Moreover, perceived quality consistently emerges as a key driver in consumers' choices of sustainable products (Magnier et al. 2016).

Hypotheses

The findings of previous studies suggest that consumers often consider implicit cues as packaging materials when evaluating sustainability (Scott and Vigar-Ellis 2014; Ketelsen et al. 2020). Research on the perceived environmental impact of packaging materials consistently shows that plastic is viewed as the least sustainable, while paper-based materials are seen more favorably, which in turn should positively impact the evaluation of product quality (Steenis et al. 2017; Ketelsen et al. 2020). Hence, we assume:

H1: Paper-based packaging (vs. plastic-based) increases (vs. decreases) product quality evaluations.

It has been suggested that consumers are sensitive to variations in packaging shape. However, research on how packaging shape impacts sustainability and product quality perceptions is limited (e.g., Liem et al. 2022). Existing studies indicate that cartons and rectangular shapes are generally associated with sustainability (Steenis et al. 2017; Liem et al. 2022). While geometrical shapes are considered more transport-efficient than round ones, they are often associated with convenience rather than sustainability (Liem et al.,2022). In contrast, for milk packaging, consumers perceive round, transparent bottles as 'very sustainable' compared to milk in a carton shape, a plastic bottle shape, and a transparent plastic bottle shape (Liem et al. 2022). Therefore, we propose:

H2: Packaging shape will impact product quality evaluations.

One relevant lay theory is the zero-sum heuristic, which suggests that consumers perceive a company's resources as fixed and finite (Newman et al. 2014). This heuristic leads to the belief that sustainability improvements, such as investments in sustainable packaging, come at the expense of other attributes—most notably, product quality. As a result, consumers' perceptions of increased packaging sustainability will diminish product quality (Newman et al. 2014). Therefore, we propose:

H3: Consumers' perceptions of packaging sustainability will mediate the impact of a) packaging material and b) packaging shape on product quality evaluations.

Methodology

The study employs a 2 (factor 1, material: paper vs. plastic) × 2 (factor 2, shape: round vs. edgy) between-subjects experimental design to investigate the direct effect of the implicit packaging cues material and shape on product quality as well as the mediating impact of consumers' sustainability perceptions, conducted separately for the milk and cookie product categories.

We cover two different categories (milk and cookies) to increase the external validity of our findings. Moreover, these categories can be seen as complements from a consumer perspective but also cover different motives in terms of milk being more utilitarian while cookies are more hedonic. Further milk is liquid, while cookies are not thereby covering different challenges from a packaging perspective.

1,200 U.S. consumers (M_{age} = 46.5 (18,3) years, 50.1% female) have been recruited via Prolific to participate in the study. Participants are randomly assigned to evaluate either a milk or cookie product, with each participant assessing one out of eight packaging designs (four for milk and four for cookies, see Figure 1 for the experimental stimuli in the milk category). After excluding participants who fail the manipulation check (incorrectly identifying the material used in the packaging), the final sample consists of 295 participants for the milk category and 335 participants for the cookie category, yielding a total sample size of N = 630 participants.

Figure 1: Experimental Stimuli in the Milk Category

	Milk	
Stimuli: n = 295	**Round shape**	**Edgy shape**
Paper material		
Plastic material		

Participants have been randomly assigned to one of the different packaging designs either in the milk or cookie category and then had to assess product quality as well as packaging sustainability using the scales of Magnier et al. (2016).

Findings

Main Effects of Packaging Material and Shape on Product Quality Evaluations

We find empirical evidence regarding the proposed impact of packaging material on product quality perceptions across both product categories (milk and cookies), supporting H1.

In the milk category, paper-based material is perceived as having significantly higher quality compared to plastic material ($M_{\text{MilkPaper}}$ = 4.97 (.09), $M_{\text{MilkPlastic}}$ = 4.47 (.11); $F(1,293) = 13.14$, $p < .001$). Similarly, in the cookie category, paper-based material is also rated significantly higher in quality than plastic material ($M_{\text{CookiePaper}}$ = 4.50 (.10), $M_{\text{CookiePlastic}}$ = 3.60 (.08); $F(1,333) = 47.32$, $p < .001$).

Regarding the shape of the packaging, ANOVA analyses across both product categories reveal no significant differences in quality perceptions between edgy and round shapes, not supporting H2. In the milk category, the difference between edgy and round shapes is not statistically significant (M_{MilkEdgy} = 4.87 (.09), $M_{\text{MilkRound}}$ = 4.66 (.10); $F(1,293) = 2.40$, $p = .12$). Similarly, in the cookie category, no significant effect is observed between edgy and round shapes ($M_{\text{cookieEdgy}}$ = 3.95 (.10), $M_{\text{CookieRound}}$ = 3.92 (.09); $F(1,333) = 0.04$, $p = .84$).

Mediating Effect of Perceived Packaging Sustainability

To test H3, which proposes that the impact of a) material and b) shape on consumers' quality evaluations is mediated by perceived packaging sustainability perception, several mediation analyses with the experimental factors as independent variables have been conducted (PROCESS MODEL 4; Hayes 2018).

In the milk category, the effect of material on consumers' sustainability perception of the packaging is significant and positive ($\beta = 2.88$, $p <.000$). Similarly, the effect of sustainability perception on quality perception is significant and positive ($\beta = .38$, $p <.000$). However, the direct effect of material on quality perception is significant but negative ($\beta = -.58$, $p = .003$). When considering the indirect effect of material on quality perception through sustainability perception of packaging, this effect is positive (1.08), and the total effect is significant and positive ($\beta = .50$, $p <.000$). According to Zhao et al. (2010), these findings can be interpreted as a competitive mediation, partially supporting H3a in the case of our experimental manipulations in the milk category.

In the cookie category, the results follow a similar pattern. The effect of material (paper vs. plastic) on consumers' sustainability perception of the packaging is significant and positive ($\beta = 3.13$, $p <.000$). The effect of sustainability perception on product quality evaluation is also significant and positive ($\beta = .35$, $p <.000$). However, the direct effect of material on quality perception is negative but insignificant ($\beta = -.20$, $p = .272$). When examining the indirect effect of material on quality perception through sustainability perception of the packaging, the effect is positive (1.10) and the total effect is significant and positive ($\beta = .90$, $p <.000$). In sum, we identified an indirect-only relationship (Zhao et al. 2010), not supporting H3a in the cookie category.

In the milk category, the effect of shape on consumers' sustainability perception of the packaging is significant but negative ($\beta = -1.33$, $p <.000$). In contrast, in the cookie category, the effect of shape on sustainability perception is positive but insignificant ($\beta = .13$ $p <.546$).

The effect of sustainability perception on quality perception is significant and positive in both the milk category ($\beta = .28$, $p <.000$) and the cookie category ($\beta = .32$, $p <.000$).

We observe similar patterns when examining the direct, indirect, and total effects in the milk and cookie categories. In the milk category, the direct effect of shape on quality perception is positive but insignificant ($\beta =.16$, $p = .251$). The indirect effect of shape on quality perception through sustainability perception is negative (-.37), and the total effect is negative but also insignificant ($\beta = -.21$, $p =.123$). In the cookie category, the direct effect of shape on quality perception is negative but insignificant ($\beta = -.07$, $p = .554$). However, the indirect effect of shape on quality perception through sustainability perception is positive (.04) and the total effect is significant but negative ($\beta = -.03$, $p = 842$). Overall, we find no empirical support for H3b neither in the milk or in the cookie category.

Contributions

The findings show that paper is perceived as more sustainable than plastic in both the milk and cookie product categories. In the milk category, an edgy shape increases perceptions of sustainability, whereas in the cookie category, no significant difference is observed between edgy and round shapes in terms of sustainability perception.

Overall, the results suggest that implicit cues as indicators of sustainability will positively influence consumers' product quality perceptions. Our findings add to the understanding of the assumptions and implications of lay theories, which have mainly been applied to investigate the effect of explicit packaging cues on consumer response. Contrary to traditional lay theories, our findings indicate that sustainability and quality are inherently not necessarily at odds, showing that implicit packaging cues can positively influence both perceptions simultaneously.

Practical Implications

This study highlights the effects of implicit packaging cues in shaping consumers' perceptions of sustainability and quality. Implicit packaging cues appear to impact the perception of sustainability and quality in specific packaging designs, offering valuable insights and strategic implications for companies aiming to advance overall sustainable development.

Research limitations and outlook

While this research provides new insights into the perception of quality and sustainability in specific packaging designs, further research is needed to examine their subsequent effects on purchase intentions (Newman et al., 2014) and to better understand the boundary conditions that prevent zero-sum heuristics from occurring.

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Balancing acts: Integrating sustainability and management control systems in Swedish retail

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Keywords

Sustainability strategy; Management control systems; Sustainability control systems; Institutional logics; Retail

Introduction

Global retailers increasingly proclaim ambitious net-zero and social-impact goals, yet struggle to translate these aspirations into everyday routines. Classic management-control systems (MCS) remain geared to efficiency and profit, while newer sustainability-control systems (SCS) often sit on the periphery. The resulting misalignment weakens both financial performance and sustainability. Extant research shows that integrating MCS and SCS is possible, but why organisations pursue radically different paths—even within the same sector—remains under-explored.

Purpose

This study asks: How do retail organisations design and integrate MCS and SCS when they are simultaneously subject to multiple institutional logics? By linking the institutional-logics perspective with control-systems theory, we seek to (1) explain heterogeneity in sustainability-control designs, (2) identify the mechanisms that foster or hinder MCS-SCS integration, and (3) offer a framework retail executives can use to diagnose their own control architectures.

Conceptual framework

Institutional logics—market, entrepreneurial, family, state and professional—provide socially legitimated “rules of the game” that channel managerial attention and shape acceptable forms of control. Building on Malmi & Brown’s (2008) “package” view, we theorise that a retailer’s dominant logic (or combination of logics) will privilege certain levers—financial, bureaucratic, cultural, administrative—while sidelining others.

Integration quality is therefore a function of logic configuration (dominant vs. peripheral) and control coupling (tight, loose, or absent links between MCS and SCS).

Methodology

We conducted a qualitative multiple-case study during 2022-2023 involving three leading Swedish retailers deliberately selected to maximise variation in ownership form and competitive context: Alpha (an independent-retailer cooperative dominated by market logic), Beta (a founder-led e-commerce firm shaped by entrepreneurial and family logics) and Gamma (a formerly state-owned pharmacy chain influenced by professional and state logics). Data comprised forty-one semi-structured interviews with top- and middle-level managers (average length fifty-five minutes) plus corporate reports and web materials. All interviews were transcribed and coded in NVivo. An abductive analytic cycle combined a priori codes drawn from control-systems and institutional-logics theory with inductively emergent categories; cross-case replication logic was then applied to build explanatory propositions.

Findings

The cases reveal three distinctive modes of MCS–SCS integration. In Alpha, market logic channels effort into financial and bureaucratic controls—budgets, carbon-priced internal tariffs and supplier science-based targets lock sustainability into profit-seeking routines—but cultural and strategic controls remain opportunistic, so inflation shocks quickly derail environmental ambitions. Beta's blend of entrepreneurial and family logics fosters an inspiring values-driven culture but few formal systems; bold moves such as fossil-free deliveries arise organically, yet the absence of sustainability KPIs, budgets or governance forums leaves integration dependent on the founder's charisma. Gamma's professional-state logic anchors an ethic of public health and accountability; cultural norms among pharmacists and administrative routines generate coherent integration, yet new commercial pressures expose lagging financial dashboards and strategy tensions. Across cases, the number and dominance of competing logics shape which controls are mobilised, hybrid controls that satisfy more than one logic act as bridges, and integration falters when symbolic cultural campaigns lack technical or financial couplings.

Contributions

This study advances theory by demonstrating how specific configurations of institutional logics condition both the selection of individual control levers and the strength of their inter-connections, thereby extending the MCS-package literature to sustainability contexts. Empirically, it delivers rare, in-depth evidence from the retail sector, illuminating patterns of control heterogeneity that large-sample surveys overlook.

Practical implications

Decision makers in retail organisation can use the integration modes as a diagnostic mirror. Mapping their dominant institutional logics reveals whether existing controls address each logic's priorities. Alpha-type firms should bolster cultural and strategic levers so profit downturns do not undermine environmental commitments. Beta-type firms need basic financial and administrative scaffolding to reduce founder dependence and scale promising initiatives. Gamma-type organisations should accelerate digital dashboards that fuse professional quality indicators with commercial cost metrics, ensuring their public-health ethos survives growing competition. Across all contexts, hybrid controls—such as supplier contracts that reward emissions cuts—offer the quickest route to coherence.

Social implications

Better-integrated control systems promise tangible societal benefits: lower supply-chain emissions, safer products, fairer labour conditions and more transparent reporting. By revealing trade-offs and fostering cross-functional dialogue, coherent systems help retailers become credible agents of sustainable consumption and public health.

Research limitations and outlook

Our findings derive from three Swedish cases, so generalisability beyond Nordic settings is tentative; moreover, the data offer a cross-sectional rather than longitudinal view of integration dynamics. Future research should test the framework quantitatively across regions, trace integration trajectories over time and examine how emerging technologies—such as AI-enabled carbon accounting or blockchain traceability—create new hybrid controls that realign institutional logics.

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The Versatile Touchpoint: User-Generated Content Reshaping the Customer Journey

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Keywords

Customer Journey; User Generated Content; Social Media; Touchpoint; Brand Publics

Introduction

In this study we seek to unravel the emergence of a touchpoint that has become ubiquitous throughout the customer journey due to social media. We are especially interested in so called user-generated content (UGC) that is actively shared on social media by consumers to guide and inspire a wide array of observers, influencing their perceptions and potential actions at various stages of their individual customer journeys. In this study we specifically focus on the platform TikTok and the lifestyle retailer Miniso. Miniso and TikTok presents as a fruitful case of a retailer who has seen its customers actively engage in extensive practices to promote both the retailer as a destination, as well as its products.

Traditional customer journey models, often linear and retailer-centric (Lemon and Verhoef, 2016), struggle to capture this dynamic and multifaceted nature of contemporary consumer experiences, particularly the impact of peer-to-peer influence in the digital sphere (Hamilton and Price, 2019). While we in principle agree with this critique, we adopt the notion of a linear process of the customer journey as a working definition. The preliminary result in this study shows that user-generated content is fruitful to frame as "brand public" (Arvidsson and Caliandro, 2016), as it allows us to better understand how managers in retail can and should approach this specific type of versatile touchpoint.

The concept of the "touchpoint" has evolved significantly within the customer journey literature. With Dhebar (2013), and further developed by Lemon and Verhoef (2016), it now constitutes a key area of inquiry. Omnichannel research emphasizes the touchpoint's critical influence on both consumer attitudes and behaviors (Salvietti et al., 2021), necessitating careful design to foster seamless experiences (Ieva et al., 2019). However, a persistent challenge for retailers lies in identifying and understanding the relative influence of different touchpoints throughout the customer journey (Zimmermann et al., 2021), leading to the development of attribution modeling as a dedicated field of study (Alexandrovskiy and Trundova, 2022). Customer journey mapping offers an alternative approach, positioning the touchpoint as central to understanding consumer responses and identifying areas for improvement within the customer journey design (Rosenbaum et al., 2017). This mapping process, particularly across categories such as social/cultural, brand-owned, and partner-owned touchpoints (Lemon and Verhoef, 2016), facilitates touchpoint identification and prioritization for managerial decision making. While extant research predominantly adopts a managerial perspective on touchpoints, a crucial avenue for future research involves exploring touchpoints from the consumer perspective (Towers and Towers, 2022), specifically examining how online consumer practices and social media platforms contribute to the emergence of novel, managerially uncontrolled touchpoints.

This study addresses this gap by examining how consumers' shared retail experiences on TikTok transform into a versatile touchpoint, shaping other consumers' often non-linear and multi-stage journeys and challenging conventional notions of touchpoint ownership and control.

Purpose
Existing literature highlights the increasing importance of social media in the customer journey, often emphasizing firm-generated content (Demmers et al., 2020). However, the proliferation of consumer-created videos, reviews, and online discussions necessitates a shift in focus. The purpose of this research is to gain deeper understanding of how consumer practices on social media becomes a touchpoint. While studies have explored the touchpoint through a managerial viewpoint, there's a gap in understanding how UGC specifically is produced, shared and consumed and spread into other customer journeys.

To understand UGC as a touchpoint we need a theoretical framework that explores the intricacies of online consumer behaviour, how content is shared, interpretated and mimicked. Therefore. this study utilizes a theoretical framework drawing on concepts and ideas from "brand publics" (Arvidsson and Caliandro, 2016) "the social customer journey" (Hamilton et al., 2021) and "the consumer production journey" (Dellaert, 2019).

Methodology
A netnographic inspired approach was employed, analyzing 412 user-generated TikTok videos and their associated comments related to Miniso, posted over a nine-month period in 2023. This method, also inspired by Arvidsson and Caliandro's (2016) research on brand publics, provided rich qualitative data, capturing the nuances of consumer behavior on this video-centric platform. The collected data was compiled and structured to enable an inductive approach; the data was coded and clustered into themes. The analysis revealed two overarching main themes: prepurchase experiences within the physical store and post-purchase engagement with the purchased products.

Findings
Within the pre-purchase stage, three distinct practices emerged. Firstly, consumers documented "new in-store" products, effectively providing real-time product updates and recommendations typically associated with the post-purchase stage. This behaviour suggests a blurring of traditional journey stages as proposed previously (Lemon and Verhoef, 2016), where consumers engage in post-purchase activities before completing a purchase. Secondly, "reviewing in-store" practices emerged, where consumers shared their opinions and experiences with products before purchasing them, even broadcasting reviews from within the physical boundaries of a Miniso store. This behaviour, driven by the desire for publicity and affiliation with the brand public, functions as a form of pre-purchase consumer-driven advertising, influencing other consumers' journeys. Thirdly, these videos function as a form of "customer-driven marketing," where user-generated stories and reviews, often mimicking each other within the brand public, contribute to brand awareness and value creation. This challenges the traditional retailer-centric view of marketing (Fuentes and Stoopendahl, 2025), highlighting the power of independent consumer-generated narratives. For an involved observer, this real-time, in-store review might trigger initial awareness of a product, provide

crucial information during their evaluation phase, or even instigate an unplanned store visit, regardless of where the observer is in their own journey.

The post-purchase stage revealed four distinct practices. Firstly, traditional “reviewing” practices, such as makeup tutorials and product hauls, emerged as a form of post-decision sharing and value co-creation for other consumers. Secondly, the “excitement and feelings” practice, often involving blind box openings, showcased the emotional engagement with the brand and product, potentially motivating other consumers to initiate their own journeys. Thirdly, the “validating” practice, where consumers simply showcased their purchases, highlighted the desire for social approval and reinforcement of purchasing decisions. Finally, the “entertainment” practice, including influencer-style vlogs and relatable memes, leveraged the brand to create engaging content, potentially attracting new customers to the brand. For involved observers, witnessing such authentic excitement can significantly impact their journey: it might spark initial interest (awareness/discovery phase for a new observer), reinforce a recent purchase decision (post-purchase validation for an existing customer), or build general positive affect towards the brand (influencing consideration or loyalty for anyone in the brand public)

Regarding touchpoint ownership, the pre-purchase stage activities constitute a consumer owned touchpoint, where they control the narrative and leverage the brand for personal publicity. However, the post-purchase activities transition towards a social/external touchpoint, where user-generated content influences other consumers’ journeys through social support, reviews, and recommendations. This versatile ownership reflects the dynamic nature of brand publics in shaping the customer journey.

Contributions
A primary contribution of this research is the in-depth articulation of how UGC on platforms like TikTok functions as a uniquely versatile touchpoint, exerting an enormous and ongoing impact on the potential behaviour of any involved observer across all phases of their individual customer journeys. We demonstrate that the influence of such UGC is not limited to a single, subsequent consumer or a specific journey stage. Instead, it creates a dynamic information environment where any observer, be they a prospective customer in the awareness phase, an existing customer seeking post-purchase validation, or even a passive member of the brand public forming latent perceptions, can encounter and be influenced by content generated at any point in another user’s journey. This fundamentally reshapes our understanding of touchpoint influence, moving beyond linearity, to recognize a many-to-many, continuous impact on brand perception, consideration, engagement, and potential actions. Our findings show how these user-generated narratives, collectively forming a vibrant brand public, empower a wide spectrum of observers to co-construct their experiences and perceptions, often independent of direct retailer control.

Practical implications
The findings of this study suggest that managers need to develop a touchpoint strategy that considers that consumers today engage in creating content and use retailers’ resources to create their own following that involve observers at any stage of their journey. This should not be confused with influencer management, in which the retailer contracts a content creator for advertising. Instead, the trend of UGC and the active utilization of a retailer, in this case Miniso, as a base for brand public dynamics, calls for a different approach. Such a strategic approach will enable managers to understand and harness the influencing power of the brand

public as touchpoint; ultimately to create continuous improvement that will drive business success and operational efficiency.

Research limitations and outlook
Future research should explore dynamics across different platforms, brands, and cultural contexts, employing a multi-method approach to gain a more comprehensive understanding of this evolving phenomena. Specifically, incorporating quantitative methods could provide a broader perspective on the impact of UGC on purchasing behaviour and brand performance. Examining the purchasing stage in greater detail would further enrich the understanding of this versatile touchpoint.

Furthermore, future research should also explore the possible managerial response to the findings in this study. Our findings raise critical questions in connection to co-creation with consumers and the brand public as a touchpoint. Specifically, future research should explore risks and possibilities for a retailer who sees a brand public emerge in connection to the brand and the in-store environment and in what ways retailers can engage them for the benefit of commercial performance.

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Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used LLM Gemini 1.5 PRO via you.com in order to enhance readability and clarity of the final version of the text. After using this tool, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Swipe Right for Local Shops: Rethinking Digital Platforms

Keywords

Local Retail, Digital Transformation, Consumer Behavior, Omnichannel Strategy, Retail Resilience

Introduction

Local retail faces mounting pressure from e-commerce giants such as Amazon and Temu, making it difficult for smaller stores to compete. However, digital transformation also presents opportunities to unite online and offline experiences while preserving the social and economic value that local retailers bring to their communities. Recent studies emphasize that omnichannel consumer behavior is shaped by both utilitarian and experiential factors (Hagen *et al.*, 2024; Zielke and Komor, 2025), yet research on local online retail platforms (LORPs) remains fragmented. While LORPs can drive foot traffic to physical stores, empirical evidence suggests that digital engagement does not always translate into offline visits. The mechanisms through which LORPs enhance local retail resilience - particularly in terms of platform design and differentiation from large-scale e-commerce - are underexplored. Addressing this gap is crucial for maintaining vibrant local shopping districts and the social fabric they provide.

Local Retail in Transition

Large-scale e-commerce has spurred many retailers to adopt digital solutions, though operating across multiple channels can strain smaller shops. Research on retail resilience underscores that digital transformation alone is insufficient; long-term sustainability also requires institutional support, community engagement, and strategic governance (Hardaker and Appel, 2025; Wilson and Hodges, 2022). Although prior studies examine how digital platforms can tackle urban challenges, limited research explains how LORPs function effectively within local retail ecosystems. Moreover, local shopping involves civic engagement and community identity (Wilson and Hodges, 2022). Although consumers appreciate the immersive nature of local retail - reflecting regional culture and facilitating social interaction - factors like limited store variety and high parking costs often deter them from choosing local stores. LORPs can address these barriers by offering real-time inventory data, localized promotions, and increased store visibility, thereby making city shopping more convenient and attractive.

Toward Resilient LORPs

Retail resilience research highlights adaptation to market disruptions (Rao, 2019; Rundel *et al.*, 2024). Initially centered on individual retailers, recent work emphasizes collective digital strategies (Wichmann *et al.*, 2021). LORPs can unify products, services, and local narratives in a cohesive digital environment, fostering place-based differentiation. Critics note that some LORPs merely replicate large-scale e-commerce designs (Grimmer, 2021). However, local retailers benefit more when digital platforms blend emotional and social aspects of in-person shopping with online efficiency (Bruckberger *et al.*, 2023). Interactive features like store rankings, digital loyalty programs, and hyperlocal storytelling can strengthen emotional ties while including real-time availability and click-and-collect options. These elements help LORPs remain competitive and reinforce community connections.

Purpose

This paper explores how LORPs can encourage physical store visits and bolster local retail sustainability. Drawing on Uses and Gratifications Theory (UGT; Katz, Blumler and Gurevitch, 1973) and retail resilience theory, the study examines how consumer motivations - ranging from convenience to community support – drive platform engagement. Retail resilience provides a broader lens for understanding how digital engagement can strengthen local shopping environments (Hardaker and Appel, 2025; Rao, 2019; Wilson and Hodges, 2022). By integrating UGT with resilience perspectives, this paper offers a framework for how digital tools can enhance individual experiences while reinforcing the structural vitality of local retail ecosystems.

Conceptual Framework

UGT suggests that consumers use LORPs for utilitarian (e.g., speed, price) and hedonic or place-related motivations (e.g., entertainment, unique assortments, local business support). Convenience often outweighs local loyalty (Hagen *et al.*, 2024), but place-specific features - like cultural identity and social embeddedness - can strengthen emotional connections (Wilson and Hodges, 2022; Wrigley and Dolega, 2011). LORPs can amplify these connections by incorporating community-driven elements, such as interactive store tours, neighborhood-based recommendations, or retailer profiles (Lewicka, 2011).

Crucially, well-designed LORPs act as “bridge mechanisms,” facilitating offline interactions through features like real-time product availability, personalized local recommendations, or promotional campaigns tied to in-store visits. Rather than replacing brick-and-mortar retail, they complement physical shopping. From a resilience perspective, a strong local retail ecosystem depends on diverse retail mixes, digital infrastructure, and municipal support (Rundel *et al.*, 2024). Yet we lack insight into how LORPs enhance resilience beyond basic transactional functions. This study explores LORPs as a strategic intervention that addresses both consumer motivations (via UGT) and long-term community health (via retail resilience).

Methodology

A qualitative approach was used to examine consumer behavior with LORPs. Thirty in-depth interviews were conducted with consumers in the Dutch province of Overijssel, stratified by gender, age (five distinct age groups spanning 18 to 88 years), and town size (small <10,000; medium 10,000–50,000; large >50,000). Given the study’s exploratory nature, the sample size balanced practical constraints with data saturation. Respondents were selected based on their engagement in cross-channel shopping behavior. The interview protocol explored consumers’ motivations and barriers in online/offline shopping and explored LORP usage. The data were analyzed using thematic coding, incorporating both deductive and inductive approaches. Deductive coding was informed by prior LORP research, allowing for the identification of themes related to existing theoretical constructs. Inductive coding followed an open coding process, enabling the emergence of novel insights beyond predefined categories. The final themes were derived based on a combination of frequency, conceptual relevance, and theoretical alignment to ensure a robust analytical framework. Coding employed Atlas.ti, for systematic organization. Cross-generational and spatial variations were also examined to identify patterns relevant to the development of LORPs.

Findings

Consistent with Zielke and Komor (2025), both utilitarian (e.g., convenience, efficiency) and hedonic (e.g., social experience, local engagement) motivations shape shopping behavior. All respondents mentioned personalized advice and in-store service (Hagen *et al.*, 2024) as key reasons for physical shopping. Twenty-two respondents cited support for the local economy and familiarity with retailers, highlighting a preference for keeping local businesses viable. Immediate product availability was also a major factor, consistent with prior research (Hagen *et al.*, 2024).

Barriers to offline shopping included perceived lack of real-time inventory and limited opening hours, reflecting findings on consumer retention challenges (Wrigley and Dolega, 2011). Additionally, almost all respondents highlighted online price comparisons as a primary reason for online shopping, suggesting that LORPs should enhance visibility, flexibility, and local loyalty incentives (Teller *et al.*, 2016).

Furthermore, this study reveals generational and spatial differences in cross-channel behavior. Older consumers value personal service and expertise, while younger consumers prioritize convenience and digital interaction. Urban shoppers benefit from real-time inventory visibility and fast click-and-collect options, while rural consumers value trust and accessibility in LORPs. These findings reinforce previous research on place-based variations in digital retail adoption (Rundel *et al.*, 2024) and variations across demographic groups (Hagen *et al.*, 2024; Zielke and Komor, 2025).

Theoretical Contributions

This study advances existing research on digital consumer behavior, local retail resilience, and omnichannel engagement by integrating UGT with retail resilience theory. While prior studies emphasize utilitarian and hedonic motivations for digital platform use, this research extends these frameworks by demonstrating that place-based social and economic factors - such as community identity, economic support, and embeddedness in local retail ecosystems - play a critical role in shaping LORP engagement and offline shopping behavior.

A key contribution of this study is its challenge to the prevailing assumption that digital platforms primarily divert consumers away from brick-and-mortar stores. Instead, the findings suggest that LORPs can function as ‘bridge mechanisms’, facilitating store discovery, reinforcing community ties, and enhancing local shopping engagement. By highlighting economic and social motivations beyond convenience, this research provides a more nuanced understanding of how digital platforms can complement rather than compete with physical retail. Furthermore, this study adds to the retail resilience literature by identifying LORPs as potential resilience-enhancing tools that not only help individual businesses adapt to digital transformation but also strengthen local shopping ecosystems as a whole.

Practical Implications

This study provides actionable insights for local retailers, policymakers, and platform designers seeking to enhance the effectiveness of LORPs. Rather than replicating large-scale e-commerce models, LORPs should be designed to strengthen consumer ties to local businesses by incorporating place-specific incentives, such as neighborhood-based recommendations, loyalty mechanisms, and community engagement features. These strategies help increase foot traffic to physical stores while maintaining the convenience of digital platforms.

For retailers, this research highlights the importance of leveraging LORPs to showcase their community identity, unique product offerings, and personalized services; advantages that large e-commerce competitors cannot easily replicate. Real-time inventory visibility, product reservation options, and locally curated content can help attract consumers who might otherwise favor online-only shopping. Additionally, this study builds on Patel et al. (2015)by demonstrating that tailoring LORP strategies to different consumer needs - such as enhancing product variety for rural shoppers and prioritizing convenience for urban consumers - can help mitigate outshopping and strengthen local retail resilience.

For policymakers and urban planners, the findings emphasize the role of LORPs as tools for sustaining local commerce rather than displacing it. Supporting these platforms through strategic partnerships, funding incentives, or integration with broader urban retail strategies can help maintain a diverse and resilient retail ecosystem.

Social Implications

This study highlights the role of LORPs in strengthening social cohesion by fostering pride in locally owned businesses, which often serve as cultural and economic anchors within communities. By reinforcing consumer ties to local retailers, LORPs contribute to a greater sense of belonging and civic engagement, as residents recognize their role in sustaining the local economy. In turn, this can lead to stronger community cohesion, particularly when LORPs integrate joint promotions, local events, and city-wide initiatives that bring businesses and consumers together.

Beyond economic benefits, LORPs support more sustainable shopping practices by encouraging proximity-based consumer behavior, reducing reliance on long supply chains and lowering the environmental impact of retail activity. By keeping spending within the region, these platforms enhance local economic resilience while promoting socially responsible consumption. Additionally, LORPs can improve accessibility and inclusivity in retail, ensuring that diverse consumer groups - across urban and rural areas - can engage with local businesses in meaningful ways.

These findings have broader implications for policymakers and industry stakeholders, particularly in the development of digital strategies that enhance social well-being. By integrating community-driven platform features, local retail ecosystems can be revitalized in ways that support both economic sustainability and social capital. Ultimately, well-designed LORPs can contribute to vibrant, connected, and resilient communities, reinforcing local identity and long-term social sustainability.

Research Limitations and Outlook

The reliance on convenience sampling presents a limitation, as it restricts the generalizability of the findings to a broader population. While the study provides valuable insights into consumer motives in cross-channel shopping, future research should incorporate larger, more diverse, and systematically selected samples to validate and expand on these findings. Comparative studies across diverse regions could clarify which specific design elements are universally effective and which require adaptation. Because the present paper is primarily conceptual and draws on exploratory insights, large-scale empirical tests remain for future work.

Additionally, the qualitative methodology focused on consumer perspectives but did not include retailer viewpoints, which could offer a more holistic understanding of the dynamics between local platforms and physical retail. Future studies should explore the operational and strategic challenges faced by local retailers in adopting digital platforms and assess their long-term economic and social impacts. Expanding the scope to include comparative analyses across regions or countries could also provide deeper insights into the global applicability of place-based retail strategies.

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Leveraging mental imagery to create an enhanced online shopping experience

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Keywords

Sensory marketing, E-commerce, Haptic imagery, Consumer reactions, Imaginativeness

Introduction

Practical relevance

Online shopping takes on an ever-increasing role in the current retail environment. In 2029 retail e-commerce sales are estimated to exceed 6.4 trillion U.S. dollars worldwide, which would signify a nearly threefold increase in e-commerce revenue over 10 years (Statista, 2024). However, consumers face the challenge of not being able to physically touch and test products before making a purchase. This limitation in tangible product experience can lead to uncertainty and hesitation (Kim & Krishnan, 2015). This issue is particularly pronounced in the beauty and personal care sector, where the tactile qualities of products are critical to consumer satisfaction. Lacking the technologies to engage the other senses, webshops still mainly rely on visual information. To compensate for the lack of physical interaction opportunities, our research examines whether we can leverage consumers' own resources, more specifically mental imagery. By encouraging consumers to imagine how a product would feel and function, we seek to replicate a physical store's comprehensive sensory information, where consumers can touch, feel, and test products before purchasing.

Theoretical relevance

Eliciting mental imagery has been used as a persuasive communication strategy for years. Especially in advertising, consumers are often encouraged to imagine the use of the product, leading to better product evaluation, stronger product desire, and greater purchase intentions (Krishna et al., 2016; Elder & Krishna, 2012). Two types of mental sensory imagery can be distinguished: deliberate (i.e. consumers being instructed to form an image) and automatic mental imagery (i.e. more spontaneous imagination, for example, by reading a description). The effects of both types of imagery have so far mostly been studied in isolation (Elder & Krishna, 2022). Our research compares the efficacy of evoking automatic versus deliberate mental imagery, which is particularly relevant as most webshops only use vivid images (i.e. a form of the automatic imagery evoking technique). By exploring the option of instructing consumers to imagine, we aim to ascertain potential enhancements beyond the current standard in online retail (Bleier et al., 2019).

Purpose

This research (1) examines the effect of haptic imagery on consumer reactions in webshops, while (2) comparing automatic and deliberate mental haptic imagery evoking techniques. Our objective is to develop a better understanding of the role of these two types in consumer decision-making processes in online shopping. We do so by unravelling explanatory mechanisms and inspecting boundary conditions. Specifically, we investigated the moderating effect of consumers' imaginativeness and the mediating role of mental imagery, perceived ownership, processing fluency, and attitude toward the product. By integrating mental imagery evoking strategies into the online shopping experience, we aim to translate a key advantage of offline shopping (i.e. physical product inspection) into the online retail environment.

Conceptual framework

When considering the distinction between the automatic and deliberate types of mental imagery, as well as varying degrees of imaginativeness among people, the expectation is that evoking mental imagery will be most likely and most pronounced in the case of deliberate instructions and for highly imaginative consumers. Concrete pictures used to stimulate automatic imagery do not leave many blanks to be filled in with imagination (Babin and Burns, 1997). Highly imaginative people may feel hampered in their imagination when confronted with the task of reconciling the image of a user interacting with the product and how they would use the product. Conversely, no effect is anticipated for low imagers, for several reasons. First, past research has demonstrated that individuals with different dispositional abilities to create mental images are differentially impacted by imagery-inviting messages (Bone and Ellen, 1992). Second, for low imagers, it has been demonstrated that deliberate mental imagery-evoking strategies are less effective than for high imagers (Petrova and Cialdini, 2005), since the instructions go against their dispositional abilities.

This leads to the formulation of the first hypothesis.

H1: Only for consumers with a high level of imaginativeness (and not for consumers with a low level of imaginativeness), stimulating deliberate mental imagery will evoke a higher level of mental imagery than (a) no stimulation of mental imagery, (b) stimulating automatic mental imagery, or (c), stimulating both automatic plus deliberate mental imagery.

Mental imagery-eliciting strategies have been proven to positively impact the vividness of people's mental imagery (Babin and Burns, 1997). Higher levels of such mental imagery, have been found to affect consumers' attitudinal judgments positively (Babin and Burns, 1997; Bone and Ellen, 1992; Rossiter and Percy, 1980). Attitudinal judgments are in turn, an important precursor to purchasing intentions (Shastry, 2021). Our study further aims to unravel the explanatory mechanism of imagery processing by looking into two particular potential mediators: processing fluency and perceived ownership. While previous research provides evidence for both pathways, they have to the best of our knowledge not yet been integrated into a single study. This study endeavors to determine their relative impact in driving consumer attitudes and purchase intentions.

This leads to the formulation of the second hypothesis.

H2: There is a parallel and serial mediation such that consumers with a high level of imaginativeness will respond to deliberate mental imagery instructions (versus no, automatic, or automatic plus deliberate stimulation) with increased levels of mental imagery, which in turn drives an increase in perceived ownership and in processing fluency, subsequently leading to more positive attitudes toward the product, and ultimately also to higher purchase intentions.

Methodology

A controlled lab experiment (n = 201) in a beauty care context with a 4 (mental imagery condition: non, automatic, deliberate, and automatic plus deliberate) x 2 (imaginativeness: low/high) full factorial design has been conducted.

Participants (all women [target group of the product]) were exposed to an online store environment showing a beauty product (i.e., silk cocoon facial skin care product, with important tactile-diagnostic properties) and provided with instructions related to haptic imagery. In the non-haptic imagery condition, participants saw a picture of the product. In the automatic haptic imagery condition, participants saw multiple pictures of the product and a person using the product. In the deliberate haptic imagery condition, the respondents saw a picture of the product and were instructed to imagine themselves using the product. After looking at the product and the online store environment in which it was presented, the participants filled in self-reported survey questions.

Mental imagery was measured with 5 (positive) items on a 7-point Likert scale based on the scale of Babin and Burns (1997). Perceived ownership was measured by three statements on a 7-point Likert scale based on the study of Peck and Shu (2009). Processing fluency was assessed by two items on a semantic differential using a 7-point Likert scale (based on Graf et al., 2017). Attitude toward the product was measured by five items using a 7-point semantic differential from the studies of Bosmans (2006) and Elder and Krishna (2012). Purchase intention was assessed using a three-item 7-point Likert scale from the study of Elder and Krishna (2012) and Imschloss and Kuehnl (2017) adapted to the context of the current study. The scale for Imaginativeness is used to gauge participants' imaginative abilities, statements were rated on a 7-point Likert scale based on the study of Zabelina and Condon (2020).

Findings

The study proposed two hypotheses regarding the effects of deliberate mental imagery stimulation on consumers' responses, considering their level of imaginativeness.

With regard to H1, our study's results (Hayes, 2022; Model 1) partially support this hypothesis. For consumers with high imaginativeness, deliberate mental imagery stimulation leads to a greater occurrence of mental imagery compared to scenarios without mental imagery stimulation (M_{del} = 5.09; M_{non} = 4.06; β = -1.04, t = -3.324, p = .0011) and automatic imagery stimulation (M_{auto} = 4.39; β = -.71, t = -2.309, p = .0221) but only with marginal statistical significance when compared to automatic and deliberate imagery stimulation ($M_{auto+del}$ = 4.49; β = -.61, t = -1.954, p = .0522). Furthermore, in line with our expectation in H1, no significant differences in mental imagery were observed among low imagers.

As for H2, an analysis of the indirect effects (Hayes, 2022; customized model: deliberate imagery as reference group) partially supported the moderated parallel and serial mediation as formulated in this hypothesis. The results show that high imagers exhibit a more favorable response to deliberate mental imagery instructions (as compared to scenarios with no mental imagery and automatic mental imagery but only with marginal statistical significance when compared to automatic and deliberate mental imagery), displaying increased levels of purchase intention through (1) higher mental imagery, improved processing fluency, and subsequently a higher attitude toward the product (all 95% CI = [-.137, -.003]) and (2) higher mental imagery, a higher level of perceived ownership, and subsequently a more positive attitude toward the product (all 95% CI = [-.075, -.001]).

Contributions

This study significantly contributes to the existing body of knowledge regarding the influence of consumers' mental imagery in several key aspects. Firstly, it distinguishes two types of imagery, a differentiation largely overlooked in previous research (Elder & Krishna, 2022).

Secondly, unlike the predominant focus on mental imagery testing in advertising contexts within consumer psychology studies (e.g., Babin & Burns, 1997; Bone & Ellen, 1992; Burns et al., 1993; Eelen et al., 2013; Elder & Krishna, 2012; Elder & Krishna, 2022; Escalas, 2004; Jeong & Jang, 2016; Lutz & Lutz, 1978; Petrova & Cialdini, 2005; Walters et al., 2007; Wolfsteiner et al., 2022), our study extends this exploration to the online shopping environment.

Thirdly, whereas previous research primarily focused on product categories with experiential components and positive affect associations (e.g. vacations, restaurants, beer, automobiles; Burns et al., 1993; Petrova and Cialdini, 2005; Rossiter and Percy, 1980), our study investigates the potential of imagery in introducing a unfamiliar experiential product: silk cocoons for skin cleansing.

Fourthly, we explore novel explanatory mechanisms within this unique context to elucidate how evoking mental imagery can influence consumer attitudes and purchase intentions (Brasel and Gips, 2014; Peck et al., 2013; Shu and Peck, 2007). When comparing their relative impact in driving purchase intentions, we find that processing fluency is the strongest mediator as the coefficients (in absolute values) of the indirect effects through this pathway are bigger than those through perceived ownership (Hayes, 2022).

Lastly, our study delves into boundary conditions by examining the moderating role of imaginativeness. This exploration enables the formulation of targeted strategies tailored to consumer profiles with varying degrees of imaginative power.

Practical implications

By examining both types of haptic imagery *concurrently*, we were able to observe that for certain target customer segments, deliberate imagery outperforms automatic imagery, albeit the combination does not offer any additional benefits. These insights can inform marketing strategies and practices. Online retailers can boost their webshops by understanding consumer cognitive styles and tailoring website designs accordingly. While costly sensory technologies are not yet scalable, our study suggests a cost-effective approach: we recommend webshops to provide deliberate mental imagery instructions when targeting highly imaginative customers, to optimize turnover (purchase intentions).

Social implications

Inconsistencies between products and their online descriptions represent a primary cause of product returns (Statista, 2021). By instructing webshop visitors to consciously imagine using the product, customers are more considerate in making a purchase decision (or not). This reduces the probability of post-purchase regret and subsequent product returns, which ultimately lowers the environmental impact from excess transportation and product waste (Frei et al., 2020).

Research limitations and outlook

While we measured mental imagery as a function of visual display and/or instructions, we did not address the potential influence of situational factors. In future research we will consider the effects of constraining cognitive and perceptual resources. Furthermore, our sample exclusively comprises women, which aligns with the beauty care context; however, since women exhibit a stronger inclination toward imagination than men (Dimberg and Lundquist, 1990; Isaac and Marks, 1994), a more diverse sample would allow for a meaningful comparison between these groups.

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Mobile shopping apps in German food retailing

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Mobile shopping apps in German food retailing

Purpose

This study evaluates the mobile shopping apps of the seven largest grocery retailers in Germany. It identifies store locators, digital coupons, and mobile payments as key app features and maps them to customer journey stages. This approach provides a structured framework for understanding app functionality and its role in enhancing the shopping experience and driving customer loyalty.

Design/Methodology/Approach

We conducted a systematic qualitative evaluation of mobile shopping apps over a four-week period using content analysis considerations. We examined the apps for pre-purchase, purchase, and post-purchase features and categorized them from a technological, functional, and marketing perspective using a morphological box approach.

Findings

The analysis identified nine key app features, including digital shopping lists, push notifications, and scan-and-go functionality. These features enhance customer engagement and provide personalized experiences, contributing to improved loyalty and satisfaction. Mapping these features to the customer journey revealed their role in streamlining the shopping process and driving retailer competitiveness.

Research Limitations/Implications

The study was limited by geographical constraints and occasional application failures during testing. In addition, the focus on technical aspects leaves opportunities for further research on user acceptance and usability.

Practical Implications

Retailers can use these insights to optimize and design their app features, aligning them with customer expectations and journey stages. This provides actionable insights for improving app functionality to drive customer engagement.

Social Implications

By addressing privacy and usability concerns, mobile shopping apps can increase accessibility, convenience, and customer satisfaction, fostering a more inclusive shopping experience.

Originality/Value

This study provides a systematic evaluation of mobile shopping apps and offers a novel framework for mapping app features to customer journey stages. It contributes to the academic discourse on mobile commerce and provides practical guidance for retailers in an increasingly digitized marketplace.

Mobile shopping apps in German food retailing

1 Introduction

The German retail landscape is undergoing a digital transformation driven by technological advancements and changing consumer preferences (Capgemini, 2017). There are about 22 million smartphones in use in Germany in 2024 (Paulsen & Welsch, 2024), which will allow the popularity of mobile applications to continue growing (Truong, 2023). Leading retail chains have responded by introducing mobile shopping apps, leveraging features such as digital shopping lists and mobile payments to attract and retain customers (Aw et al., 2022; Liao & Yang, 2020). These apps use mobile couponing to improve customer acquisition and retention (Son et al., 2020).

Mobile shopping apps offer a variety of features, such as real-time inventory up-dates, detailed product information, price comparisons, and discount alerts, to enhance the convenience of grocery shopping (Wohllebe & Wolter, 2021). While privacy and usability concerns remain, personalized offers based on shopping behavior data can improve the overall shopping experience (Degirmenci, 2020; Verbraucherzentrale, 2023).

There is limited knowledge in empirical studies on the features of shopping apps (Sinemus and Zielke, 2022). In this regard, this study will examine the key features of the mobile shopping apps of leading German food retailers, which will be used to provide a structured framework for a comprehensive overview of functionality across the customer journey. The study will address the following research questions:

- What kind of features are provided by mobile shopping apps?

- How can the identified features be integrated into the customer journey to improve the shopping experience?

The remainder of this paper is organized as follows: After introducing the background of the problem, Section 2 presents the conceptual foundations of mobile apps and mobile shopping apps, as well as their benefits, challenges, and concerns. The methodological approach of the empirical study is presented in section 3. Section 4 critically assesses the results of the empirical study and develops a morphological box consisting of a technological base, interaction and engagement, personalization and customer loyalty, local adaptation and regionalization, and marketing and promotion perspective. Section 5 concludes the paper with an outlook and discussion of limitations.

2 Conceptual foundations

2.1 Mobile applications and mobile shopping ads in food retailing

Mobile applications, or apps, are software programs specifically designed to run on mobile operating systems, provide a wide range of functionality, and offer significant value to users (Sammons & Cross, 2016). Apps have become an essential part of modern smartphones, providing solutions for various needs in daily life (Bundeskartellamt, 2021; Webster & Paquette, 2023). By March 2024, there will be nearly 2.9 million apps in the Google Play Store and approximately 1.9 million in the Apple App Store. However, only a tiny fraction of these apps are frequently used by consumers, especially for messaging, social media, dating, and other forms of entertainment (Buildfire, 2023).

In this competitive shopping apps market, food retailers design mobile shopping apps to improve the shopping experience for customers in the grocery retail industry (Saarijärvi et al., 2014). Due to their convenience, mobile shopping apps are expected to replace traditional interaction between retailers and customers, such as plastic cards for loyalty points or coupons cut out of magazines (Hahner, 2023; Son et al., 2020). In the future, mobile shopping apps will be the preferred method for retailers to offer a wide range of features that empower customers to make optimal purchases (Saarijärvi et al., 2014).

2.2 Benefits, challenges and concerns of mobile shopping apps

Mobile shopping apps offer several benefits to customers, including time savings, shopping convenience, cost savings, and an improved overall shopping experience (Garrouch & Ghali, 2023). They integrate mobile payment systems and reduce wait times at checkout counters (Wohllebe & Wolter, 2021). Digital coupons accessible through these apps eliminate physical coupons, allowing customers to easily access special offers on their smartphones (Galib, 2023). In addition, digital shopping lists provided by these apps replace handwritten lists, further increasing convenience for users (Huang & Yang, 2018).

Retailers use new channels like the Internet to meet customers' needs (Verhoef et al., 2007). They integrate mobile devices into their marketing strategies to improve customer satisfaction and drive business success (Shankar et al., 2010). Retailers can notify customers of special offers through mobile apps and promote products through smartphones. Using mobile apps, retailers can quickly inform customers of special offers and promote products through their smartphones. Mobile notifications can boost customer engagement, giving retailers a competitive edge (Heinemann, 2018). With apps, companies can get to know their customers, gather data on their buying habits, and use it to create tailored offers that foster customer loyalty. Based on this valuable information, retailers can adjust their product offerings, store layouts, and hours of operation to suit their customers' preferences better (Fagerstrøm et al., 2021). Recent industry studies show retailers use apps to track and analyze customer purchasing behavior. They have also developed apps to increase customer loyalty (Lanzerath & Lohmann, 2021).

Customers are reluctant to use mobile shopping apps due to privacy concerns and potential manipulation (Arz, 2020; Ghosh, 2024; Verbraucherzentrale, 2023). A mobile shopping app might be difficult to use, but this can be solved with a user-friendly design and clear instructions (Stumpp et al., 2022). For a company to develop an excellent app, it is crucial to know the required expertise and skills (Shah-rasbi et al., 2021), to invest time and effort in understanding customer needs, and to continuously update and improve the app (Wohllebe & Wolter, 2021).

2.3 Customer journey

Customer journey describes a customer's sequential steps during the purchase process (Følstad & Halvorsrud, 2023). Typically, this journey includes five distinct phases, as outlined by (Boss et al., 2016):

- Awareness (Attention): This initial phase involves making the customer aware of a particular product and capturing their attention.
- Consideration: During the consideration phase, the customer expresses a genuine interest in a product after gathering relevant information about it.
- Purchase: In the purchase stage, the customer purchases the product and completes the transaction.
- Retention: Throughout the retention phase, the customer interacts with the purchased product to foster long-term customer loyalty through effective service.
- Advocacy: In the advocacy phase, the customer shares his positive experience with others, potentially influencing purchasing decisions.

3 Methodology

This study evaluated the mobile shopping apps of seven large German food retailers (in alphabetical order: Aldi-Nord, Edeka, Kaufland, Lidl, Netto, Penny, and Re-we) and focused on collecting qualitative data on app functionalities, personalized offers, and push notifications from the providers.

Before using the apps in Bremen, Delmenhorst, and Ganderkesee for four weeks, from February 5, 2024, to March 3, 2024, we analyzed the apps' features, which included systematic research on the providers' websites. The approach follows the argumentation of (Kotzab & Madlberger, 2001) web-scan approach and the content-analytical considerations (Hüseyinoğlu et al., 2017).

The pre-purchase, purchase, and post-purchase phases (Jesus & Alves, 2020) were analyzed in detail by using the app features separately in different stores to compare locations of the same retailer. The apps were installed on an iPhone 11 Pro running iOS 17.3.1.

Upon installation, the apps require users to create an account by providing their email address and mobile phone number. Users must also agree to the terms of service, location services, and messaging to access all the apps' features. Observations were meticulously documented across feature categories and vendors. Loyalty programs such as DeutschlandCard (Edeka and Netto) and PAYBACK (Rewe) were excluded from the analysis.

4 Results

4.1 Apps functionality

Our analysis discovered the following nine main features:

1. **Store locator**. With this feature, users can locate nearby stores and access essential information (Heinemann, 2013) such as opening hours, contact details, and available

services such as meat counters, live store occupancy, and payment options. Users can find nearby stores without entering an address when location access is enabled. This feature also provides information about the distance to the nearest store location. Accurate directions to a selected store are provided when route planner applications are integrated.

2. **Couponing/advantages**. Mobile couponing is the digital adaptation of traditional couponing methods (Wohllebe & Wolter, 2021). Coupons can be used to obtain discounts or free products. Digital coupons must be activated before being used, which generates a QR code or barcode that can be scanned at the checkout. The terms and conditions of digital coupons may vary, including limits and expiration dates. Some coupons may be exclusive to selected locations and have unique benefits. They are used for enhancement of the promotion effectiveness (Gong *et al*., 2024).
3. **Digital receipt**. Since the introduction of the obligation to issue receipts in Germany in 2020, providing them in either printed or electronic form has become mandatory. (cf. Federal Ministry of Finance, 2023). Some mobile shopping apps allow digital receipts to be displayed in the app immediately after scanning a QR or barcode or emailing it to the customer.
4. **Digital shopping list**. This feature replaces traditional handwritten shopping lists (Aw et al., 2022). Users can search for products from the product range and add them to the shopping list with a simple click, including the desired quantity and any comments. Additionally, digital coupons can be added to the list. Once an item is taken from the shelf, it can be marked as "bought." Shopping lists can be shared with others, and app users can create multiple lists. Products can also be added to the list by scanning their barcode with a smartphone camera.

5. **Mobile payment/scan&go**. The Scan&Go feature lets users scan item barcodes using their smartphone camera and pay for the product without placing items on the check-out conveyor belt (Lawo et al., 2021). After completing the purchase, a QR code is generated that must be scanned at the checkout for payment. The purchase amount is then debited directly from a stored credit card or bank account without using physical money or a card. To speed up the shopping process, customers can use the "mobile payment" function to pay directly with a smartphone without going to the checkout and scanning a generated code.
6. **Digital ads**. This function presents users with digital versions of traditional printed leaflets (Jebarajakirthy et al., 2021). These digital ads mirror the content of their printed counterparts and give users access to current offers and the ability to browse them any-time and anywhere. Some apps allow an integration of items from the digital ads into a digital shopping list. Other apps include external links enabling users to view leaflets and share offers via messaging platforms such as WhatsApp.
7. **Recipes**. The recipe feature includes instructions on how to prepare dishes, needed ingredients, product descriptions, preparation times, and/or nutritional information (Mishra & Morewedge, 2021). With a search function, specific recipes can be found. Customers can bookmark and save recipes and/or share them via social networks. Adding ingredients to a digital shopping list to filter recipes by different categories, such as vegetarian, Christmas, difficulty level, or preparation time. Users can also watch videos to help with the **preparation process.**
8. **Pickup** and delivery service. Mobile shopping apps can be used for home shopping, allowing users to browse products, create digital shopping lists, and schedule pickup

options (Mkansi et al., 2020). Upon pickup, the customer gets shopping bags/containers for safe transportation. If items are not available, alternative products are offered. Contact information must be provided to make contact, and payment can be made with mobile payment systems or directly when picked up at the store. Digital coupons increase savings with the pickup service. Home delivery services are offered when orders achieve a minimum order value, and digital coupons can also be used for delivery services.

9. **Push-messages**. Users can receive messages on their smartphones with updates, news, or other relevant information if push messages are activated (Wohllebe et al., 2021). These notifications keep customers informed, e.g., by reminding them of expiring coupons or special offers. To receive push messages, users must agree to the relevant terms and conditions, with the ability to change or revoke their consent at any time.

Fig. 1 summarizes the results of the evaluation.

Feature	Aldi-Nord	Edeka	Kauf-land	Lidl Plus	Netto	Penny	Rewe
Store locator	X	X	X	X	X	X	X
Couponing/advantages		X	X	X	X	X	X
Digital receipt		X	X	X	X		X
Digital shopping list	X	X	X	X	X	X	X
Mobile payment/scan&go		X	X	X	X	X	X
Digital ads	X	X	X	X	X	X	X
Recipes	X		X				X
Pick-up and delivery service							X
Push messages	X	X	X	X	X	X	X

Fig. 1. Overview of the features of each mobile shopping app (retailers in alphabetical order).

4.2 App evaluation using a morphological box

To present the results of our assessment systematically, we developed a morphological box that describes different characteristics of mobile shopping apps from various perspectives. A morphological box generally serves as a methodological tool for generating different combinations of potential solutions (Zwicky, 1967), enabling innovative solutions across different attributes. For our study, we organized the morphological box according to the following parameters (see also Figure 2):

- Technology foundation is about the basic technological infrastructure needed for running a mobile shopping app, including the platform, the operating system, and regular updates.
- Interaction and engagement relate to the interaction between an app provider and its users, including providing feedback, providing contact options, and executing surveys to improve the user experience.
- Personalization and loyalty refer to adaptations based on individual preferences and experiences to build long-term loyalty, such as recipe suggestions, digital coupons, customized offers, and contests.
- Localization and regionalization relate to content customization for specific geographic locations, providing locally relevant information, such as exclusive benefits at preferred stores and promotions limited to particular locations.
- Marketing and advertising refer to promotions to initiate purchases to foster customer retention, including push notifications, in-app ads, email campaigns, and influencer partnerships.

Mobile shopping apps offer a variety of interaction, personalization, and customer loyalty opportunities. The interactive features of a mobile shopping app will increase the likelihood for customer loyalty (Thakur, 2018). The technological foundation ensures a seamless and efficient app use on different platforms where data protection and regular updates are essential features. The incorporation of digital technology features in mobile shopping apps is needed (Tseng *et al.*, 2022). Mobile shopping apps enable targeted promotion approaches, allowing active engagement with users, and have the potential to become an integral part of a daily shopping experience.

Technological foundation	Platform	Operating system	Data privacy	Updates		
Interaction and engagement	Customer Service	User feedback	Social media integration	Polls		
Personalization and loyalty	Personalized offers	Customer loyalty methods	User profile	Raffles	Personalized recipes	
Localization and Regionalization	Location-specific offers	Location-specific functions	Offerings for regional events and holidays			
Marketing and promotion	Promo-tions	Push messages	In-app ad-vertising	Email notifica-tions	Terminal loyalty points	Coopera-tions

Fig. 2.: Morphological box from a technological, functional, and marketing-related perspective of mobile shopping apps

4.3 Results of analysis based on a customer journey

Finally, we mapped the functionality of the mobile shopping apps against the customer journey framework and identified the pattern outlined in Figure 3.

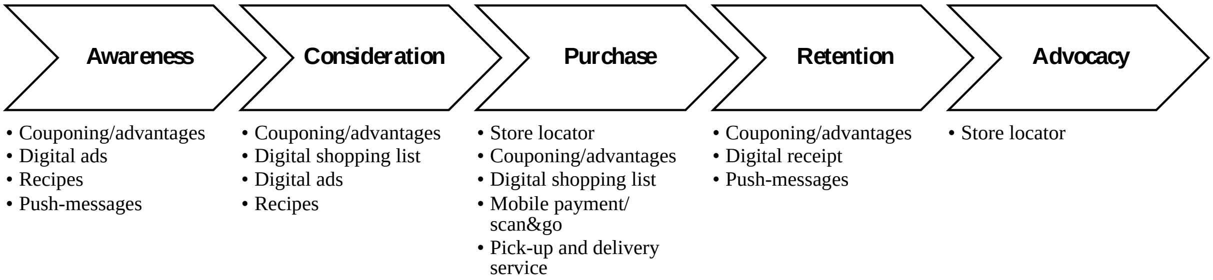

Fig. 3.: Functionalities of mobile shopping apps along the customer journey

In the awareness phase, digital coupons and push notifications draw customer attention. Digital ads can help to generate additional interest in price promotions. The recipe feature can be used for inspiration for cooking, which potentially increases the desire for ingredients.

In the consideration phase, users use digital coupons and brochures for product searches to add items to a digital shopping list. The recipe function is used to decide upon ingredients based on nutritional information or other aspects of the recipe.

In the purchasing phase, the store locator finds the nearest store. Items are checked off the digital shopping list either during or after the purchase, and digital coupons can be used at the checkout. In addition, purchases can be made remotely using the pickup and delivery feature and paid for within the app.

In the retention phase, benefits can be granted by collecting points, which motivates customers to make further purchases with which additional benefits can be achieved. Digital receipts are available immediately after purchase, and push notifications are reminders.

During the advocacy phase, customers use the store locator to rate their shopping experience and give store feedback.

5 Conclusions

Our research aimed to identify the features of selected mobile shopping apps (RQ 1) and integrate the identified features into the customer journey (RQ 2).

Sections 4.1 and 4.2 present the findings related to RQ 1, highlighting nine different app features (see Figure 1), which were further evaluated based on their technological, functional, and marketing foundations to identify a systematic overview of various combinations of features for future app development (see Fig. 2). Section 4.3 addressed RQ2 and discussed how the identified app features were integrated into the customer journey and how the overall customer experience can be improved.

The results of our study support literature findings that mobile shopping apps have the potential to streamline the shopping process (Faulds et al., 2018), increase customer loyalty (Zhang et al., 2023), and enhance the competitiveness of retailers (Qui-nones et al., 2023).

Based on our research approach, our study shows some limitations, including temporary app outages during shopping processes or the absence of using features such as scan&go due to limited payment options. We also experienced some geographical constraints, which hindered a comprehensive evaluation, as our study did not include the Aldi-Süd app, which has no stores in the studied area. As our study focused on the technical aspects of the apps, there are future opportunities for exploring user acceptance and usability aspects in more detail.

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Abstract

The impact of natural and disruptive events, such as the grounding of the Ever Given in the Suez Canal in 2021, the Covid-19 pandemic, and consequential delays in throughput at ports and container replenishment (Ivanov, 2020) have impacted the drive for more predictable and reliable supply chains (Choudhary et al., 2023). European textile manufacturers have had to work hard to sustain profitability and respond to large-scale imports from low labour rate sources of production. Further research is needed to support manufacturers, distributors and retailers in developing resilient supply chains to support reliable and predictable delivery performance to their customers. This paper builds on prior research relating to agile merchandising as a value adding supply strategy. Involving 11 European textile manufacturers, the concept of creating resilient agile supply networks in the textile fashion industry the additional influence from product design complexity and strategic supply chain capabilities is investigated. The results suggest that by developing resilient supply chains from implementing strategic supply chain capabilities and strategic segmentation, managing supply chain alignment and customer range planning are effective in responding to the volatile and unpredictable demand.

Key words: Agile Merchandising, Product Design Complexity, Strategic Supply Chain Capabilities, Strategic Segmentation

Does international channel integration really matters in Latin American agrifood SMEs? Evidence from Dynamic marketing capabilities

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Keywords

channel integration, dynamic marketing capabilities, internationalization

Introduction

Latin America and the Caribbean are key agri-food producers due to abundant natural resources, with Colombia recognized as a global food hub. However, exports remain commodity-focused and concentrated in a few markets, limiting diversification. Small and medium-sized enterprises (SMEs) face major internationalization barriers, including high intermediation costs, limited infrastructure, and inadequate support programs. Two core challenges are identified: excessive intermediary influence and the need to develop Dynamic Marketing Capabilities (DMCs) to offer value to international markets. While DMCs enhance firms' adaptability and competitiveness, their role, especially in emerging economies like Colombia, is underexplored, particularly regarding distribution channel integration. Current research often neglects how DMCs interact with intermediaries or vary by SME size. This paper addresses these gaps by examining how channel integration supports DMC development in Latin American agri-food SMEs, aiming to improve international performance. Through a literature review and empirical analysis, the study highlights the strategic importance of integrated distribution channels in fostering DMCs and advancing SME internationalization. It concludes with key findings, implications, limitations, and recommendations for future research.

Purpose

This study aims to identify the role of distribution channel integration in fostering Dynamic Marketing Capabilities (DMCs) within Latin American agri-food SMEs, with a particular focus on advancing their internationalization processes, especially in Colombia.

Conceptual framework

Dynamic Marketing Capabilities (DMCs) are critical for firms navigating complex international markets, enabling them to adapt, innovate, and grow competitively (Davcik et al., 2020; Patel et al., 2021). Defined as the ability to reconfigure marketing resources for value delivery abroad (Weerawardena et al., 2014), DMCs include networking, market orientation, market adaptation, and innovation (Hoque et al., 2022; Alqahtani et al., 2024).

This study explores the role of international distribution channel integration in enhancing these four capabilities among Latin American SMEs. Channel integration fosters information sharing, resource coordination, and relationship building (Goraya et al., 2022; Tagashira & Minami, 2019), thus enabling dynamic networking (H1), improved market orientation (H2), market adaptability (H3), and innovation (H4). Each hypothesis posits that integration supports the development of the corresponding DMC by enhancing communication, cooperation, and strategic alignment across partners (Choi & Hara, 2018; Son et al., 2023).

Subsequently, the study hypothesizes that these DMCs significantly influence the internationalization process of SMEs. Dynamic networking facilitates market entry and resource mobilization (Felzensztein et al., 2022) (H5), while market orientation helps firms understand and respond to foreign consumer needs (Genc et al., 2019; Demuner-Flores et al., 2022) (H6). Market adaptability enables strategic flexibility to seize opportunities (Zhang & Xie, 2019; Boonchoo, 2025) (H7), and innovation capabilities allow firms to develop competitive solutions for international markets (Reimann et al., 2021; Chang et al., 2022) (H8).

Overall, this framework underlines the role of DMCs—nurtured by channel integration—as strategic enablers of internationalization among Latin American SMEs, particularly in resource-constrained contexts (Buccieri et al., 2020; Tartaglione & Formisano, 2018).

Methodology

This study focused on 83 Colombian SMEs in the agri-food sector. A non-probability sampling method was used, and measurement scales were adapted from prior validated studies (Mazzucchelli et al., 2019; Choi & Hara, 2018). The model was assessed using Partial Least Squares (PLS), suitable for small samples (Rojas & Rod, 2013), evaluating reliability, convergent validity, and discriminant validity (Fornell & Larcker, 1981; Hair et al., 2011). All scales exceeded the required thresholds, demonstrating internal consistency and reliability for measuring dynamic capabilities and internationalization processes in agri-food SMEs.

Findings

Our findings reveal the significant influence of channel integration on DMCs and their impact on internationalization. The results obtained from the estimation of the model to test the hypotheses stated in the theoretical model. We applied full bootstrapping with 5000 subsamples, mean replacement for missing values, and a two-tailed test for hypothesis testing. The coefficients of the statistics allow us to accept or reject the hypotheses and to determine the level of influence of each variable on another. In this sense, H1 (t 2.843, p-value (0.004) $<$ 0.05), H2 (t 2.371, p-value (0.018) $<$ 0.05), H3 (t 2.327, p-value (0.020) $<$ 0.05), H4 (t 5.233, p-value (0.000) $<$ 0.05) and H6 (t 1.962, p-value (0.050) = 0.05) are fulfilled. The results do not allow us to accept H5 (t 0.204, p-value (0.838) $>$ 0.05), H7 (t 0.2329, p-value (0.742) $>$ 0.05), and H8 (t 1.899, p-value (0.058) > 0.05), which suggested the positive impact of networking, market adaptation and innovation on internationalization.

Contributions

This study contributes by presenting a comprehensive structural model and methodology, shedding light on how strategically integration with intermediaries can lead to cost-effective and sustainable marketing capabilities, ultimately boosting internationalization processes in SMEs in emerging markets.

Practical and social implications

This research offers valuable insights to SME managers, assisting them in identifying marketing strategies conducive to internationalization, tailored to their company's size, international experience, and target export markets. Additionally, it provides guidance on fostering collaborative relationships with intermediaries, thereby mitigating unfair and unethical practices within the agri-food sector.

Research limitations and outlook

This study focuses exclusively on Colombia and the agri-food sector within Latin America. Furthermore, it does not consider alternative internationalization models, such as Born Global or New Venture.

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The Impact of Unmanned Stores on Rural Communities

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Unmanned stores, rural communities, social life, ethnography

Article Classification

Research paper

Introduction

This study explores how the emergence of unmanned stores impacts the sense of community in rural areas. The study takes place against the backdrop of increased urbanisation, which threatens the existence of smaller rural communities. Historically, the local shop has served as a place where residents did their shopping while also having a social role, serving as a meeting place for residents (Amcoff *et al.*, 2011). It thereby helped in tying the local community together. However, operating these local shops profitably is getting increasingly difficult. This creates a vicious circle as more people move away due to a decline in accessible commercial and public services, such as grocery stores (Christiaanse and Haartsen, 2017; Lundgren and Nilsson, 2023). It is this societal shift that unmanned stores are trying to counteract (Benoit et al, 2024). Unmanned stores are defined as "accessible retail outlets that can be operated by the retailer without human presence available to monitor or support shoppers. They usually require customers to identify themselves and check in and out, using technology" (Benoit *et al.*, 2024, p. 2).

Previous research on unmanned stores has studied this store type in an urban context (Wu *et al.*, 2024). Moreover, there has been a strong focus on unmanned stores' operational performance and functional benefits, such as efficiency, innovation, convenience and cost optimisation (Benoit *et al.*, 2024; Park and Zhang, 2022; Wu *et al.*, 2024; Yao *et al.*, 2020). The few studies that have focused on the consumers have predominantly used a psychological approach to examine the individuals. This is why that we approach the study sociologically to study the social implications of the emergence of unmanned stores to communities.

Purpose

We argue that the social role of unmanned stores has been overlooked. Not only does that create a theoretical gap that needs to be filled but there is also a practical problem for the people living in these rural areas. It is therefore that we study unmanned stores in rural areas from a cultural community-level perspective (Arnould and Thompson, 2005). We embarked on our exploration with the research question: how does the emergence of unmanned stores impact the social life of smaller villages?

Methodology

We interrogate our research question through an ethnographic study of a small Swedish village of around 400 inhabitants. The village has previously had a grocery chain run by one of Sweden's largest grocery chains, but it closed down. After some years without a grocery store, an unmanned store opened in the village.

We study this context through a multimethod inquiry, mainly through interviews and ethnographic observations but also supported by a netnography of their Facebook page and document analysis of their local newspaper and village council protocols. We immersed ourselves in the community by staying for a week in the village, where we tried to blend in with the locals (Arnould and Wallendorf, 1994; Belk *et al.*, 2013). We conducted in-situ interviews around the store as the informants were shopping. We also conducted in-depth interviews with the store owner and the head of the village council. Moreover, our netnographic inquiry consisted of compiling data from the village and the unmanned store's Facebook pages. The document analysis was based on data from the local newspaper (2012-2024) and village council protocols (2005-2021).

Findings

Based on our ethnographic inquiry, we have identified four preliminary themes. These themes constitute four ways that the unmanned store impacts the social life of the village. The first theme emerging from the collected material is responsibilisation. It refers to how it has become the residents' responsibility to keep their shop alive because this in turn is also what keeps their village alive. This aligns with existing theory explaining how responsibilities have been delegated to individual consumers (Giesler and Veresiu, 2014). In this case, it means that the individual residents have been tasked with taking responsibility for battling urbanisation by engaging in consumption. It pressurises the citizens to mobilise themselves in order to sustain the livelihood of having a shop and enjoying the sociality that it creates. This development therefore impacts the social life in the village by creating what could be called a "village responsibility".

The second theme is that of nostalgia. This is in the sense that the emergence of the unmanned store has made the residents long for the days when they had the old store. This relates to research on nostalgia that has pointed out how consumers seek the past when they experience social unrest in the present (Brown *et al.*, 2003; Hartmann and Brunk, 2019). In this context, it could therefore also indicate how the residents are challenged by not having a shop that serves as a social meeting place. It therefore impacts the social life of the village by not living up to their hopes for sociality, which creates a sense of nostalgia in the residents.

The third theme is convenience. This refers to how the residents experience a new form of convenience, as it is now possible to shop 24/7. Going to the next grocery store would require a long trip by car or public transport, which takes time and effort. However, on the other side, unmanned stores' highly digitalised nature excludes those consumer groups who would be most in need of easy access to goods, such as the elderly and disabled people.

The fourth theme is kinship. While the shop used to be a place that would gather the residents, there is now doubt whether they would accept the shop as being part of their village. Additionally, these stores need to show initiative and take actions beyond the primary store functions, e.g., by supporting local events and projects and interacting with the village council and locals. However, this social role is challenged by the stores' primary commercial and economic role, which can lead to tensions. It is therefore that the kinship of the village has been complicated by the emergence of the unmanned store.

Contributions

Theoretically, this research extends existing studies on unmanned stores by shifting the focus from operational efficiency to the socio-cultural implications of these stores for rural communities. By approaching the phenomenon sociologically, this study demonstrates how unmanned stores reshape traditional retail spaces, creating tensions between economic and social logics. From a practical perspective, this research offers valuable insights for retailers, policymakers, and rural communities. Retailers can benefit from strategies that enhance accessibility and foster local engagement, ensuring that unmanned stores do not alienate certain consumer groups unfamiliar with digital technology.

Practical implications

At first, our study provides insights into whether and how unmanned stores can revitalise rural economies by maintaining essential services and reducing the operational costs of traditional stores. The study warns that making consumers responsible for store survival can create social pressure, potentially leading to tensions among residents.

Secondly, based on our preliminary findings, our study helps retailers operating unmanned stores to understand and manage the social and cultural role of their stores in rural areas. For example, we can assess the potential impact of integrating community-centred design, e.g., of bulletin boards or local supplier partnerships, and improved store accessibility.

Social implications

Due to the ongoing urbanisation, rural areas are facing numerous challenges. This study sheds light on the role of unmanned stores for the so-far overlooked rural communities. The research contributes to discussions on how unmanned stores affect the quality of life in rural areas, raising awareness about the potential tensions between these stores' economic and social functions. Beyond the immediate community, the research also raises important questions about social responsibility in the retail sector as the study highlights the importance for rural retailers to consider integrating community initiatives, such as support for local events that allow residents to have a stake in store operations.

Research limitations and outlook

A longitudinal study exploring the rural communities over time would provide a more comprehensive and deeper understanding of the role and impact of unmanned stores. Moreover, future research could extend this investigation to multiple rural communities across different countries to examine whether similar social dynamics emerge in varied contexts.

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How retail innovation fosters salespeople's innovative behaviour: effects of ambidexterity and job satisfaction

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Keywords

Retail Innovation, Salespeople's Innovative Behaviour, Sales-Service Ambidexterity and Job Satisfaction.

Introduction

Innovation in the retail sector has established itself as a key topic in the retail literature (Wang *et al.*, 2024) due to the competitive advantages that it provides (Marín-García *et al.*, 2025; Channa *et al.*, 2022). However, it remains an underexplored field of study (Alexander and Kent, 2021).

This study adopts the perspective of the salesperson, who plays a key role in driving organisational innovation (Groza *et al.*, 2021). Employee innovative behaviour has ignited growing interest in both the business and academic communities (Khalifa Alhitmi *et al.*, 2023; Kumar *et al.*, 2022) and, among salespeople, has been identified as a determining factor in providing quality services, increasing customer satisfaction, and ensuring organisational success (Anning-Dorson, 2018).

To foster this innovative behaviour, it is crucial to create environments that are conducive to learning and creativity (Afsar and Umrani, 2020) and to identify the factors that facilitate or hinder such behaviour (Khalifa Alhitmi *et al.*, 2023).

Although sales-service ambidexterity has been widely studied in other contexts (Mom *et al.*, 2009; Lindsey-Hall *et al.*, 2023), its specific influence on salespeople's innovative behaviour has yet to be adequately addressed (Ahmad *et al.*, 2022). Likewise, job satisfaction, a key factor in motivating employees and improving their performance (Riyanto *et al.*, 2021), has not been thoroughly explored as a possible mediator between retail innovation and innovative behaviour.

Purpose

The main objective of this study is to contribute to the knowledge about retail innovation using the Job Demands-Resources (JD-R) model (Bakker and Demerouti, 2007) as a holistic framework. Job demands can generate stress and impair performance if not balanced with job resources, which facilitate motivation and engagement. Job resources not only reduce the impact of demands but also enhance positive outcomes such as innovation. The introduction of innovation in retail can act as a job resource, providing new tools and processes that improve efficiency and motivate salespeople to innovate. If the company offers support and training, innovation becomes a driver of innovative behaviour rather than an obstacle. In this context, sales-service ambidexterity can be understood as a job requirement that demands greater cognitive effort and adaptation. However, when salespeople have the appropriate resources, this ambidexterity becomes a facilitator of innovative behaviour. Finally, job satisfaction acts as a motivational resource, reducing stress and increasing salespeople's willingness to take risks and innovate. Overall, the aim is to fill the gap identified in the literature on the strategic management of innovation in retail, a topic that requires further exploration (Paredes *et al.*, 2023).

Conceptual framework

This paper adopts the retail innovation perspective proposed by Lin (2015), who distinguishes three dimensions: product, marketing, and relational innovation, albeit from the sellers' perspective. Marketing innovation (MI) stands out for its ability to transform commercial strategies (Purchase and Volery, 2020). Relational innovation (RI) improves trust, loyalty, and quality in relationships between involved parties (Marín-García *et al.*, 2020), while product innovation (PI) involves changes to existing products or the creation of new, yet-to-be-marketed products (Blanco-Callejo and de Pablos-Heredero, 2019). These dimensions influence the work environment, serving as tools that predict employee innovative behaviour (Tiwari *et al.*, 2025; Li *et al.*, 2020), especially when creative efforts are recognised and validated (Farooqi *et al.*, 2025). Based on these statements, the following hypothesis is proposed:

Hypothesis 1. Retail innovation has a positive effect on salespeople's innovative service behaviour (SISB).

Salespeople face job demands and volatile changes in the retail environment (Gaan and Shin, 2023), which lead them to adopt an ambidextrous approach in which sales and customer service activities are simultaneously integrated (Temerak *et al.*, 2024). Both a pro-innovation culture or climate (Aman *et al.*, 2021; Mullins *et al.*, 2019; Lee *et al.*, 2017) and innovation in production processes (Ardito *et al.*, 2018) strengthen polychronicity, promoting sales-service ambidexterity. Based on this, the following hypothesis is formulated:

Hypothesis 2. Retail innovation has a positive effect on sales-service ambidexterity.

Contextual ambidexterity explains how salespeople simultaneously optimise sales and service activities by leveraging synergies between the two (Shiue *et al.*, 2021). This allows them to balance innovation and efficiency, fostering incremental innovations (Paredes et al., 2023). Furthermore, employing these skills together stimulates customers' purchasing desire and facilitates innovative solutions (Ruyter *et al.*, 2020). Consequently, those who effectively combine both dimensions of ambidexterity exhibit higher levels of innovative behaviour (Ahmad *et al.*, 2022), leading to the following hypothesis:

Hypothesis 3. Sales-service ambidexterity (SSA) has a positive effect on salespeople's innovative service behaviour.

It is also relevant to explore the mediating role of SSA in the relationship between retail innovation and salespeople's innovative service behaviour. Therefore, the following research question is posed:

RQ1: Does sales-service ambidexterity mediate the relationship between retail innovation and salespeople's innovative service behaviour?

The relationship between innovation and job satisfaction has been widely studied and it has been found that an innovative climate positively impacts employee satisfaction (Demircioglu, 2023). Grolleau *et al.* (2022) confirm that employees in innovative companies demonstrate greater job satisfaction, improving not only organisational performance but also individual wellbeing. Furthermore, an environment that values innovation directly influences job satisfaction, reinforcing employees' positive perceptions of their work (Aslan and Atesoglu, 2021). Consequently, the following hypothesis is proposed:

Hypothesis 4: Retail innovation has a positive effect on salespeople's job satisfaction.

Job satisfaction and innovative behaviour tend to align in environments that promote trust in innovation (Bysted, 2013), allowing salespeople to feel motivated to propose new ideas (Alqhaiwi *et al.*, 2023). Mustafa *et al.* (2021) confirm that satisfied employees are more engaged in creative innovative activities. Furthermore, high levels of job satisfaction reduce resistance and strengthen support for innovation (Shipton *et al.*, 2006). Based on this evidence, the following hypothesis is formulated:

Hypothesis 5: Job satisfaction has a positive effect on salespeople's innovative service behaviour.

Given that job satisfaction can influence salespeople's willingness to engage in innovative behaviour, it is relevant to examine its potential mediating role in the relationship between retail innovation and this innovative behaviour. Therefore, the following research question is posed:

RQ2: Does job satisfaction mediate the relationship between retail innovation and salespeople's innovative service behaviour?

Methodology

This quantitative study focuses on a leading multinational company in the construction and decorating materials sector, recognised for its firm commitment to innovation. It focuses on 362 salespeople in four of its strategic markets: Spain, Portugal, the United States, and the United Kingdom.

The constructs are measured using scales previously validated in the academic literature: Retail Innovation (relational, product, and marketing innovation) (Lin, 2015; Gil-Saura *et al.*, 2024); Sales-Service Ambidexterity (SSA) (Jasmand *et al.*, 2012); Salespeople's Innovative Service Behaviour (SISB), adapted from Ahmad *et al.* (2022) and Luoh *et al.* (2014); and job satisfaction.

Partial least squares structural equation modelling (PLS-SEM) was used in the software SmartPLS version 4.1.0.9 (Ringle *et al.*, 2022).

Findings

The measurement model includes two second-order constructs: Retail Innovation, a formative construct composed of product, marketing, and relational innovation (Marín-García *et al.*, 2020); and SSA, a reflective-reflective construct composed of customer service provision and cross-selling/upselling (Fujii, 2024; Agnihotri *et al.*, 2017). Additionally, two first-order latent variables are included: salespeople’s innovative service behaviour (SISB) and job satisfaction (JS). All first-order indicators presented adequate internal consistency, composite reliability, and convergent validity values. The analysis of the factor loadings showed that all were optimal and significant, except for one factor, which was eliminated due to its loading below 0.6, following the recommendation of Bagozzi and Yi (1988).

Given the nature of the proposed model, a two-stage build-up approach (Wetzels *et al.*, 2009; Ringle *et al.*, 2012) was used to create the second-order latent variables. The discriminant validity of all scales, both the first-order and second-order indicators, was adequate using both the Fornell-Larcker criterion and the HTMT index (Gold *et al.*, 2001; Henseler *et al.*, 2015).

In the second phase, the analysis of the formative measurement model for Retail Innovation was evaluated using its weightings, and all dimensions were found to be significant. In the case of SSA, the external loadings were statistically significant.

The results of the structural model confirm all the proposed hypotheses, with significant relationships and no collinearity. Retail innovation positively influences salespeople's innovative service behaviour (SISB), sales-service ambidexterity (SSA), and job satisfaction (JS), the latter being the strongest relationship in the model. In turn, job satisfaction and sales-service ambidexterity significantly impact salespeople's innovative service behaviour (SISB). The R^2 values were significant, and the positive Q^2 values reflect adequate predictive relevance for all endogenous variables, confirming the model's validity.

The results of the structural model for the mediating effects confirm that both mediation paths are significant. The relationship between retail innovation and salespeople's innovative service behaviour (SISB) is positively mediated by both sales-service ambidexterity (SSA) and job satisfaction (JS). The total direct effect is also significant and positive, indicating that the influence of retail innovation on salespeople's innovative service behaviour is mediated through these variables. The confidence intervals (2.5% and 97.5%) for each relationship do not include zero, confirming the robustness of the mediating effects. These results confirm that there is complementary partial mediation by both S-S Ambidexterity and Job Satisfaction in the relationship between Retail Innovation and Salespeople's Innovative Service Behaviour.

Contributions

This study contributes significantly to the field of retail innovation by proposing a conceptual model that integrates strategic variables of salespeople’s innovative behaviour. Furthermore, it is framed within the Job Demands-Resources (JD-R) theory (Bakker and Demerouti, 2013), considering how environmental demands and job resources, such as marketing, product, and relationship innovation, along with ambidexterity and job satisfaction, influence the salespeople’s innovative behaviour.

It expands on previous research by demonstrating the relationship between sales ambidexterity and innovative behaviour, a connection that has so far only been demonstrated in the B2B context (Ahmad *et al.*, 2022). Furthermore, it addresses the lack of specific literature on the influence of retail innovation and job satisfaction on salespeople's innovative behaviour (Bysted, 2013; Mustafa *et al.*, 2021; Shipton *et al.*, 2006; Li *et al.*, 2020; Farooqi *et* *al*., 2025). Finally, it introduces, as a theoretical novelty, the mediating role of ambidexterity and job satisfaction, providing a more comprehensive view of the factors that drive salespeople's innovative behaviour.

This research fills a critical gap in the literature by examining how multiple innovation-related resources jointly influence sales employees' innovative behaviour, an area that has received limited empirical attention. Its findings are especially relevant given the increasing need for frontline employees to adapt to rapidly evolving market demands. The confirmation of ambidexterity and job satisfaction as mediating variables not only enhances theoretical understanding but also offers actionable insights for retail management strategies aimed at fostering innovation at the point of sale.

Practical implications

In practical terms, this study provides guidelines for companies to encourage innovative practices in areas such as marketing, product development, and customer relations. Such practices promote creativity and innovative behaviour among salespeople, which contributes to improved customer service and higher levels of job satisfaction. Furthermore, it highlights the importance of reinforcing ambidextrous skills as a key element in strengthening this relationship. It is also emphasised that greater job satisfaction acts as a driver of innovative behaviour, thus reinforcing the positive impact of innovation in retail.

Research limitations and outlook

The study has certain limitations that can be addressed in future research. The main limitation is that it focuses on a single company, which may limit the potential to generalise the findings to other companies or sectors. Future research is recommended to expand the sample to include other environments and different cultural contexts.

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Internal Communication, Corporate Social Responsibility, and Workplace Happiness in Spanish Supermarkets

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Internal communication, internal corporate social responsibility, workplace happiness, corporate social networks.

Introduction

Since the 1980s, which marked the beginning of the digital age, information and communication technologies (ICT) have been present in all areas of life, both personal and professional (Chew *et al.*, 2023). Their impact on organisations has generated a growing interest in internal communication, considering it a key strategic resource for improving work environments (Meirinhos *et al.*, 2022). This interest, in turn, has driven an increase in academic research, which continues to the present day (Ravina-Ripoll *et al.*, 2023).

Internal communication is an essential tool that facilitates the flow of information and ideas, strengthens collaboration and teamwork, drives the achievement of business objectives, and improves employee wellbeing at work (Tkalac Verčič *et al.*, 2024). In this context, according to Lee (2022), two types of communication are identified: formal, between the company and employee (FIC-CE) and informal, between manager and employee (IIC-ME). However, the digital age is transforming the way in which communication is conceived in the business field, consolidating it as one of the areas with the greatest need for development and research (Badham *et al.*, 2023).

In this new context, the use of digital platforms and corporate social networks (CSN) becomes essential to strengthen relationships between the parties and promote more fluid and two-way communication in the work environment (Wuersch *et al.*, 2024). It is a determining element in organisational dynamics and workplace wellbeing, as it influences employee development and the achievement of business objectives (Farooq *et al*., 2024). In this sense, open and personal digital communication strengthens emotional ties and promotes an environment of trust and a sense of belonging within work teams (Lee *et al*., 2024).

To improve work environments, internal corporate social responsibility (ICSR) initiatives have also emerged as a field that requires further research and development, due to the potential benefits it can bring to employee performance (Barkay, 2024) while becoming a tool that connects workers in high-value initiatives that have repercussions on their workplace wellbeing (Tang *et al*., 2024). In this sense, it is essential to analyse the impact of ICSR on employee happiness to optimise business productivity and profitability and identify strategies that contribute to improving employee wellbeing (Hatami *et al*., 2024).

Purpose

Taking into account the existing gaps in research and in line with the Job Demands-Resources (JD-R) theory proposed by Demerouti *et al*. (2001), we analyse the impact of formal and informal internal communication as a work resource that influences the perception of internal corporate social responsibility actions, determining their effects on happiness at work. In addition, it is proposed to examine the relationship between formal and informal internal digital communication, exploring their interactions and contributions.

Conceptual Framework

Formal and Informal Internal Digital Communication

Internal communication focuses on incentivising employees, managing transformations, driving participation and engagement, creating healthy work environments, and facilitating the exchange of knowledge and ideas, thus playing a key role in organisational effectiveness (Koch and Denner, 2022). However, despite its numerous benefits, there are still theoretical gaps that need to be addressed in relation to digital internal communication, specifically that which is developed through corporate social networks (CSN) (Tkalac Verčič *et al*., 2024).

Nowadays, companies rely on two main forms of internal communication to ensure effective interaction. On the one hand, formal internal communication is developed through official channels, where the company assumes the responsibility of transmitting information to employees (Lee, 2022). On the other hand, informal internal communication is characterised by its spontaneity and personalisation, arising in interactions between middle managers, supervisors, and employees (Viererbl *et al*., 2022).

Since communication within an organisation can occur in various ways and the impact of digital internal communication still needs to be further investigated (Tkalac Verčič *et al*., 2024), the first hypothesis of the study is formulated.

H1: Formal internal communication through CSN between company and employee positively impacts informal and digital internal communication between manager and employee.

Workplace Happiness

The concept of "*happiness*" does not have one single meaning and has been defined from two philosophical perspectives: hedonism and eudaemonism. Hedonism is also known as the subjective wellbeing of an individual and focuses on the search for pleasurable sensations and emotional balance (Huang *et al*., 2024). In contrast, eudaemonism, or psychological wellbeing, is based on the idea of living a full life aligned with one's own values (Tabala *et al*., 2023).

Since happiness can be understood and defined in different ways, and in line with the objective of this study, the definition of Fitriana *et al*. (2022) is adopted, who understand work happiness as: "*feeling good about work, feeling good about characteristics of the job and feeling right about the entire organization, pleasant judgments or experiences, namely positive feelings, flow at work, moods, and emotions*" (p.2). This topic is increasingly relevant in the scientific and business fields, as it contributes to the wellbeing and quality of life of employees, in addition to enhancing business productivity (Qamar *et al*., 2023).

Internal communication is a strategic resource that favours innovation, competitiveness, and organisational efficiency. It also plays a key role in strengthening employee commitment and happiness through effective talent management (Ravina-Ripoll *et al*., 2023). Therefore, it is essential to analyse communication from a digital perspective, specifically through corporate social networks, and to delve into its impact on employee happiness levels (Romero-Rodríguez and Castillo-Abdul, 2024). The second and third hypotheses are therefore put forward:

H2: Formal internal communication through CSN between company and employee positively impacts workplace happiness.

H3: Informal internal communication through CSN between manager and employee positively impacts workplace happiness.

Internal Corporate Social Responsibility

Corporate social responsibility (CSR) has established itself as a fundamental pillar of corporate marketing, by strengthening the connection between organisations and their environment and improving their ability to respond to social demands (González-Álvarez *et al*., 2023). In this sense, CSR is divided into two broad areas: external CSR, which covers initiatives aimed at the local community, the natural environment, and consumers (Reimer *et al*., 2024), and internal CSR, which encompasses the actions implemented by organisations to foster the motivation, engagement, and loyalty of their employees (Barkay, 2024).

The exponential growth of CSR initiatives has generated a growing need to delve deeper into their research (Ramírez *et al*., 2022). Along these lines, this study expands knowledge in this field, based on the multidimensional approach proposed by Turker (2009) that conceptualises CSR through four dimensions: social and nonsocial stakeholders, society, employees, and customers. In particular, this research focuses on the employee-related dimension, i.e., internal corporate social responsibility (ICSR).

Considering the importance of internal communication in companies and the influence of new technologies, scholars have stressed the need for organisations to implement efficient strategies to communicate with their employees, encouraging their participation and engagement in ICSR initiatives (Zhang *et al*., 2024). Therefore, it is essential to examine how internal and digital communication, both formal and informal, impacts ICSR. For these reasons, the third and fourth hypotheses of the study are proposed.

H4: Formal internal communication through CSN between company and employee positively impacts internal corporate social responsibility.

H5: Informal internal communication through CSN between manager and employee positively impacts internal corporate social responsibility.

Likewise, recent studies have shown that internal corporate social responsibility can play a key role in reducing negative emotions, attitudes, and behaviours in the work environment, contributing to reducing staff turnover and emotional exhaustion (Tang *et al*., 2024). Considering the benefits and the significant research gap on how the perception of their actions influences workplace happiness (Wulandari *et al*., 2024), the final hypothesis of the study is proposed.

H6: Internal corporate social responsibility positively impacts workplace happiness.

Years of service in the company

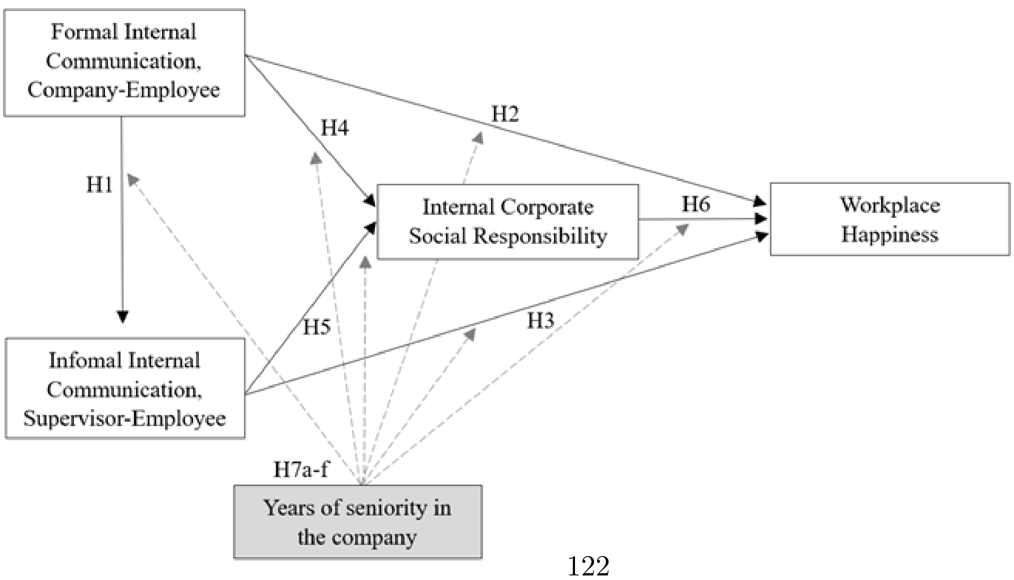
Based on previous studies and according to Zychlinski *et al*. (2022), seniority in the company acts as a relevant moderator that deserves to be analysed. Therefore, this study focuses on that aspect, defining seniority as the period of time that an employee remains in the service of an organisation (Utomo *et al*., 2022).

In addition, recent research has shown that, over time, employees tend to build more confidence in their abilities, which allows them to assume a more influential role within the organisation (Maghfiroh and Pujianto, 2024). However, some studies suggest that greater seniority in the company may be associated with a decrease in the quality of performance or job satisfaction, especially when a worker holds the same position for a long period of time (Marcaletti *et al*., 2023).

Considering the importance of delving deeper into the impact of employee seniority in the company, the following hypotheses are proposed for this moderator:

H7a-f: Seniority in the company significantly moderates internal communication through CSN, both formal between company and employee and informal between manager and employee, internal corporate social responsibility, and workplace happiness.

Figure 1 Theoretical model and hypotheses



Methodology

To achieve the proposed objectives, quantitative research based on a structured and self-administered questionnaire has been carried out. The study variables have been evaluated using various scales supported by the scientific literature. Specifically, internal communication has been evaluated by the scale proposed by To *et al*. (2015), who consider two dimensions in this variable: formal internal communication between company and employee (FIC-CE), assessed by 4 items, and informal internal communication between manager and employee (IIC-ME), also assessed by 4 items. Workplace happiness has been assessed using the scale developed by Salas-Vallina and Alegre (2021), composed of a total of 9 items. However, during the analysis process, problems with the discriminant validity of the scale were identified and to correct this situation, it was decided to eliminate two items, maintaining at all times its conceptual structure and measurement capacity, so that the results continued to be representative and reliable. Finally, internal corporate social responsibility has been measured through the employee-focused dimension, based on Turker's multidimensional scale (2009) consisting of 5 items.

The study was carried out in collaboration with a company specialising in the development of a corporate social networking technology application that is currently being used by various organisations. This study focused on the retail sector, particularly on a Spanish supermarket chain. To collect data, the supermarket chain distributed the questionnaire to 1,769 employees through this digital platform, taking advantage of their familiarity with this digital channel for receiving internal communications. A nonprobability convenience sampling was carried out and as a result, a final sample of 682 employees was obtained during the months of January to March 2024, reaching a response rate of 39%, considered adequate for the analysis and relevant to the objectives of the study.

Additional data such as gender, age, level of educational, type of workday, and job position were collected. Furthermore, given the purpose of this study, seniority in the company was also included.

Table 1 Sample profile

Employees (n=682)					
Items	**N**	**%**	**Items**	**N**	**%**
Gender			**Years of seniority**		
Male	156	22.87	≤ 5 years of seniority	396	57.77
Famale	526	77.12	> 5 years of seniority	286	41.93
Age			**Type of work day**		
< 20 – 29 years	138	20.23	Full-time	544	79.76
30 – 49 years	394	57.77	Part-time	138	20.23
> 50 years	150	21.99	**Position in the company**		
Education level			Management	6	0.87
No certificate	4	0.63	Middle management	63	9.23
Primary education	116	17.00	Operational staff	575	84.31
Secondary education	216	31.67	Technician	38	5.57
Vocational training	259	36.95			
University degree	75	10.99			

Master or PhD	12	1.75

Once the data were obtained, their distribution was verified using the Kolmogorov-Smirnov test, which indicated that they did not follow a normal distribution, since all items had critical values lower than 0.05. Following recommendations of Hair *et al*. (2019), and given the exploratory nature of the study, the partial least squares regression method (PLS-SEM) and SmartPLS 4 software (version 4.1.0.6) were used. To evaluate the overall fit of the model, the standardised root mean square residual (SRMR) was validated, obtaining a value of 0.043, which indicates an optimal fit of the model (Hair *et al*., 2019).

Using the PLS-SEM method, the relationships between the indicators and their constructs were analysed, evaluating the reliability and validity of the model through the calculation of factor loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). The results showed factor loadings greater than 0.70, confirming the reliability of the indicators. Likewise, the CR presented values above the minimum threshold of 0.70, while the AVE exceeded values above 0.60, supporting both the internal consistency and the validity of the structural model (see Table 2) (Hair *et al*., 2019).

Table 2 Reliability and convergent validity of the first-order model: FIC-CE, IIC-ME, ICSR and WH

Constructs and factors	**Loadings**	**t**	**Cronbach α**	**CR**	**AVE**
Formal Internal Communication Company-Employee (Adapted from To *et al.*, 2015)					
FIC-CE1 The company has regular staff appraisals in Which people discuss What employees want.	0.843**	43.550			
FIC-CE2 Managers interact formally and directly with employees to find out how to make employees	0.912**	113.449			
more satisfied.	0.880**	86.534	0.862	0.906	0.708
FIC-CE3 Managers meet with employees regularly to find out What expectations they have of their jobs.	0.719**	20.371			
FIC-CE4 The company surveys employees at least once a year to assess the quality of employment.					
Informal Internal Communication Manager-Employee (Adapted from To *et al.*, 2015)					
IIC-ME1 When at work, our manager regularly talks to us to find out about our work.	0.898**	87.283			
IIC-ME2 When at work, when our manager notices that one of us is acting differently than normal, he					
will try to find out why	0.919**	89.691	0.943	0.959	0.855
IIC-ME3 When at work, our manager tries to find out what we want from the company.	0.945**	141.644			
IIC-ME4 When at work, our manager tries to find out our real feelings about jobs.	0.935**	133.213			
Internal Corporate Social Responsibility (Adapted from Turker, 2009)					
ICSR1 Our company supports employees who want to acquire additional education.	0.845**	49.024			
ICSR2 Our company policies encourage the employees to develop their skills and careers.	0.927**	134.991			
ICSR3 Our company implements flexible policies to provide a good work & life balance for its	0.876**	68.017			
employees.	0.866**	59.148	0.929	0.946	0.778
ICSR4 The management of our company is primarily concerned with employees' needs and wants.	0.895**	88.669			
ICSR5 The managerial decisions related with the employees are usually fair.					
Workplace happiness (Adapted from Salas-Vallina and Alegre, 2021)					
WH1 At my job, I feel strong and vigorous	0.887**	67.358			
WH2 I am enthusiastic about my job.	0.880**	55.873			
WH3 I get carried away when I am working.	0.895**	68.642			
WH4 How satisfied are you with the nature of the work you perform?	0.812**	31.980	0.940	0.951	0.736
WH4 I would be very happy to spend the rest of my career with this organization.	0.818**	32.877			
WH6 I feel emotionally attached' to this organization.	0.872**	56.411			
WH7 I feel a strong sense of belonging to my organization. .	0.839**	37.820			

Notes: Cronbach α = Cronbach's aplha; CR = composite reliability; AVE = average variance extracted

Table 3 shows that the square root of the average variance extracted for each construct exceeds the highest correlations with the other constructs, thus confirming the discriminant validity of the model (Fornell and Larcker, 1981). In addition, the heterotrait-monotrait ratio (HTMT) of the correlations presents a threshold below 0.90, which reinforces the discriminant validity of the measures used (Henseler *et al.*, 2015)

Table 3 Discriminant validity

Factor	F1	F2	F3	F4
F1. FIC-Company-Employee	**0.842**	0.899	0.891	0.890
F2. IIC-Manager-Employee	0.828	**0.925**	0.759	0.824
F3. Workplace Happiness	0.807	0.719	**0.858**	0.827
F4. ICSR	0.808	0.773	0.776	**0.882**

Notes: FIC: Formal internal communication. IIC: Informal Internal Communication. ICSR: Internal corporate social responsibility. Diagonal data in bold represents the square root of AVE. Below the diagonal: correlations between the factors. Above the diagonal: values of the squared correlations (HTMT ratio)

Once the reliability and validity of the measurement instruments were confirmed, the structural model analysis was carried out (see Table 4). To do this, 5,000 bootstrapping samples were used to evaluate the PLS nomogram, which allowed a robust estimation of the coefficients and their statistical significance (Hair *et al.*, 2019). The results confirm compliance with all the hypotheses raised. In particular, H1 confirms that FIC-CE has a positive impact on IIC-ME (β= 0.828, $p<0.01$). Hypothesis H2 confirms that FIC-CE improves WH (β= 0.807, $p<0.01$) and H3 also shows that there is a significant relationship between IIC-ME and WH (β= 0.161, $p<0.01$). In addition, as shown in H4, it is evident that FIC-CE positively influences the perception of ICSR actions (β= 0.808, $p<0.01$) and H5 shows that IIC-ME also impacts ICSR (β= 0.330, $p<0.01$). Finally, H6 confirms the existence of a positive relationship between ICSR and WH (β= 0.344, $p<0.01$).

Table 4 Structural equations model results

Hypothesis	Relationship	β	t value	Contrast
H1	FIC-CE → IIC-ME	0.828**	50.036	Supported
H2	FIC-CE → WH	0.807**	43.459	Supported
H3	IIC-ME → WH	0.161**	3.038	Supported
H4	FIC-CE → ICSR	0.808**	41.227	Supported
H5	IIC-ME → ICSR	0.330**	5.953	Supported
H6	ICSR → WH	0.344**	7.163	Supported

Notes: FIC-CE: formal internal communication, company-employee; IIC-ME: informal internal communication, manager-employee; WH: workplace happiness; ICSR: internal corporate social responsibility. β – standardised beta. IIC-ME: R^2= 0.686 Q^2= 0.684; WH: R^2=0.696 Q^2= 0.649; ICSR: R^2= 0.687 Q^2= 0.651. **$p<0.01$

A multigroup analysis (MGA) developed by Henseler *et al*. (2016) was conducted using SmartPLS 4 software to identify significant differences in the relationships between constructs based on employee seniority. To this end, two groups were established: employees with fewer years of service (≤ 5 years), who represented 58.07% (N = 396), and employees with more years of service (> 5 years), who constituted 41.93% (N = 286). Prior to running the MGA, measurement invariance of the constructs was verified in both groups, ensuring comparability of the results.

Table 5 shows the three-step procedure developed by Henseler *et al*. (2016). In the first step, configural invariance was developed, ensuring the use of the same items, algorithms, and data processing for all constructs in both groups. In the second step, compositional invariance was confirmed, as the correlations obtained were not significantly less than one, and their values exceeded the 5% quartile. Finally, in the third step, the equality of the means and variances of the constructs was assessed in subsamples of employees ≤5 years of service and >5 years of service. The data showed equality of variances between the two subsamples, confirming the absence of significant differences between the construct scores of the observations. However, two significant differences in the mean value were found in: FIC-CE and ICSR. This indicates that the data used in this study demonstrate partial measurement invariance (Henseler *et al*., 2016), allowing for the MGA analysis. In this study, the PLS-MGA method based on 5,000 bootstrapping samples was used to compare the standardised coefficients between the two groups (Hair *et al*., 2019).

Table 5 Results of invariance measurement testing

Factors	Step 1	Step 2				Step 3						
	Conf.inv	**C**	**5% Quantile of Cu**	***p*-value**	**Comp Inv**	**Mean diff**	**Confidence Interval 95%**	**Equal mean**	**Variance diff**	**Confidence Interval 95%**	***p*-value**	**Equal variance**
FIC-CE	Yes	1.000	0.999	0.727	Yes	0.002	[-0.143; 0.171]	No	0.006	[-0.360; 0.393]	0.341	Yes
IIC-ME	Yes	1.000	1.000	0.969	Yes	0.000	[-0.155; 0.155]	Yes	0.002	[-0.261; 0.280]	0.167	Yes
WH	Yes	1.000	1.000	0.917	Yes	-0.001	[-0.156; 0.154]	Yes	0.009	[-0.376; 0.406]	0.799	Yes
ICSR	Yes	1.000	1.000	0.768	Yes	0.001	[-0.157; 0.157]	No	0.003	[-0.263; 0.295]	0.195	Yes

Notes: FIC-CE: formal internal communication, company-employee; IIC-ME: informal internal communication, manager-employee; WH: workplace happiness; ICSR: internal corporate social responsibility. Conf. inv: Configural invariance; C: Correlation; Comp. inv: Compositional invariance

As shown in Table 6, the results reveal significant differences in the relationship proposed in hypothesis H7c, i.e., in the impact of informal internal communication between managers and employees (IIC-ME) on workplace happiness (WH). In this sense, employees with fewer years of service (≤ 5 years) experience a stronger impact on their workplace happiness compared to those with more years of service. These findings highlight that seniority within the company acts as a significant moderator in the relationship between informal internal manager-employee communication and workplace happiness, suggesting that the effects of this interaction may differ depending on the length of time employees have been with the organisation.

On the other hand, regarding hypotheses H7a, H7b, H7d, H7e, and H7f, no significant differences were found between the groups, indicating that hypothesis H7 is partially confirmed.

Table 6 Henseler's MGA cohort by company seniority

Hypothesis		Relationship	Path coefficient			MGA Henseler p-valor
			β ≤ 5 years of seniority	**β > 5 years of seniority**	**β Dif.**	
H7a	**Not supported**	FIC-CE → IIC-ME	0.838**	0.817**	0.021	0.282n/s
H7b	**Not supported**	FIC-CE → WH	0.394**	0.588**	-0.034	0.170n/s
H7c	**Supported**	IIC-ME → WH	0.130*	-0.040n/s	0.201	0.030**
H7d	**Not supported**	FIC-CE → ICSR	0.489**	0.577**	-0.036	0.176n/s
H7e	**Not supported**	IIC-ME → ICSR	0.359**	0.305**	0.054	0.320n/s
H7f	**Not supported**	ICSR → WH	0.363**	0.324**	0.038	0.351n/s

Notes: FIC-CE: formal internal communication, company-employee; IIC-ME: informal internal communication, manager-employee; WH: workplace happiness; ICSR: internal corporate social responsibility. ≤ 5 years of seniority: IIC-ME: R^2= 0.703 Q^2= 0.701; WH: R^2= 0.688 Q^2= 0.618; ICSR: R^2= 0.663 Q^2= 0.622. > 5 years of seniority: IIC-ME: R^2= 0.668 Q^2= 0.665; WH: R^2= 0.710 Q^2= 0.677; ICSR: R^2= 0.714 Q^2= 0.679. *p<0.1**p<0.05; n/s: not significant

Findings

This study's main objective was to demonstrate the impact of both formal company-employee and informal manager-employee internal communication through corporate social networks (CSN) on the perception of internal corporate social responsibility (ICSR) actions and workplace happiness. The results of this study, in line with the Job Demands-Resources (JD-R) theory proposed by Demerouti *et al*. (2001), confirm that internal communication is a valuable resource for strengthening the perception of ICSR actions and improving workplace happiness. First, this study reaffirms that formal internal communication contributes to improving informal communication, both developed through corporate social networks, in line with the study by To *et al*. (2015). According to the study by Ravina-Ripoll *et al*. (2023), formal internal communication helps improve workplace happiness in the context of this study. Similarly, and following the study by Koch and Denner (2022), informal internal communication also contributes to improving workplace happiness, although to a lesser extent. Furthermore, both formal and informal communication reinforce employees' perceptions of ICSR actions, in line with the studies by Zhang *et al*. (2024), and consequently they also help to improve employees' happiness (Wulandari *et al*., 2024). Our findings support previous research that has shown these relationships in different settings and situations, providing new perspectives in the retail sector.

On the other hand, our results show that the impact of internal communication varies depending on the employee's seniority in the organisation. In line with the studies by Zychlinski *et al*. (2022), this analysis highlights the importance of taking into account job seniority to ensure effective and sustainable communication over time. Specifically, employees with five years or less of service (≤5 years) perceive informal communication between manager and employee through corporate social networks as beneficial, as it helps them feel better and maintain higher levels of happiness in the work environment. However, employees with more than five years of service (>5 years) do not value this digital and close interaction with their managers as positively. This phenomenon could be explained by the evolution of their role within the organisation. Given that supermarket employees are the main point of contact with customers and, in many cases, face highly demanding and stressful situations, their communication needs may change over time (Hameli and Bela, 2023). In this sense, and in line with the studies by Marcaletti *et al*. (2023), seniority can have an adverse effect and actually decrease job satisfaction and wellbeing.

Contributions

This research offers significant theoretical and practical implications. From a theoretical perspective, this study contributes to the development of the literature on internal communication by analysing its impact on the perception of internal corporate social responsibility (ICSR) and workplace happiness within the retail sector, particularly in supermarkets. Unlike previous works, this study differentiates the types of internal communication as formal company-employee and informal manager-employee communication through corporate social networks.

One of the main theoretical contributions of this study is the inclusion of employee seniority as a key moderating variable in the relationship between internal communication and its effects on the perception of ICSR and workplace happiness (Zychlinski *et al*., 2022). Furthermore, the research is based on the Job Demands-Resources (JD-R) theory of Demerouti *et al*. (2001), providing new perspectives on how internal communication can act as a key resource for improving job satisfaction in high-demand environments, such as supermarkets (Hameli and Bela, 2023).

Furthermore, the study advances the scientific literature by exploring the use of corporate social networks as an innovative tool for internal communication. This digital approach responds to changes in the way companies manage employee interaction, aligning with digital transformation at the organisational level (Tkalac Verčič *et al.*, 2024).

From a practical perspective, this research offers key insights for business management. The main contribution is the identification of more effective internal communication strategies to improve the perception of ICSR and employee happiness, which can lead to an improved working environment (Qamar *et al*., 2023).

The study highlights that an employee's seniority influences how internal communication is perceived, implying that companies should adopt differentiated approaches based on the experience of their staff. These findings are particularly relevant for human resources managers, internal communications managers, and business leaders seeking to reinforce organisational culture and employee engagement (Sicilia and Palazón, 2023).

Practical implications

The results of this research have important implications for business practice, especially in the retail sector and, in particular, in supermarket chains. It has been shown that internal communication, both formal and informal, of a digital nature—i.e., communication delivered through corporate social networks—directly influences the perception of internal corporate social responsibility actions and workplace happiness. For this reason, it is recommended to promote the use of corporate social networks to strengthen communication with employees, the perception of corporate social responsibility actions, and workplace happiness.

Likewise, it is important to consider that informal communication between manager and employee is not the preferred option for those with more than five years of service in the company (>5 years). These employees tend to value more formal, structured communication focused on recognition of their experience, rather than spontaneous and informal interactions through corporate social networks. These results highlight the importance of adopting differentiated strategies to optimise the impact of internal communication and adapt it to specific needs.

Furthermore, it is essential to train those responsible for internal communications, human resources and managers, providing them with tools and guidelines to adapt their strategies to the specific needs of each employee group. This will enable more effective communication, aligned with organisational expectations and dynamics, thereby improving the work experience and employee engagement.

The impact of these findings on business management is significant, as effective internal communication, both formal and informal, is key to company efficiency. Similarly, fostering an environment where employees achieve optimal levels of happiness and motivation will directly contribute to improving the quality of customer service, strengthening the company's reputation, and increasing customer loyalty.

Social implications

This research has important social implications. From a corporate social responsibility perspective, the findings can help companies strengthen their commitment to employees by promoting initiatives that generate value and benefits beyond financial compensation. This involves developing programmes that promote professional growth, work-life balance, and a more inclusive and collaborative work environment. By prioritising these actions, companies promote the wellbeing and happiness of their employees while strengthening their organisational culture and nurturing a greater sense of belonging. As a result, job satisfaction, engagement, and productivity increase, generating a positive impact on both internal performance and the company's sustainability and competitiveness.

In terms of public and industrial policy, this study could provide relevant information for the development of regulations that promote more effective management of internal communications, especially in sectors characterised by high levels of work-related stress and constant interaction with end customers, such as the service sector. The results can serve as a reference for designing initiatives that promote the digitalisation of communications in the business world, ensuring that these corporate social networks are used effectively and equitably to improve the perception of the internal corporate social responsibility initiatives that the company makes available to its employees and the level of happiness in the workplace.

Finally, improving internal communication can have a positive impact on employees' quality of life by encouraging a healthier and more collaborative work environment. Furthermore, this approach transcends the business environment, contributing to the development of a more balanced society, where improving happiness is not only an individual goal, but also a shared responsibility between companies and their employees.

Research Limitations and Outlook

This research offers a more detailed view of the relationship between the study variables analysed: formal and informal internal communication, internal corporate social responsibility, and workplace happiness. However, it has some limitations that should be considered. By focusing solely on the retail sector, and more specifically on supermarket chains in Spain, there may be limitations in generalising the results to other economic sectors and countries.

Furthermore, understanding communication in a digital and innovative environment remains a complex task, as technological evolution advances at a faster pace than scientific research, making it difficult to adapt and evaluate its impacts in the workplace.

Finally, future lines of research could explore other moderating factors, such as gender or age, with the goal of fine-tuning internal communication strategies and optimising their effectiveness for different employee profiles. It would also be interesting to analyse various levels of seniority in the company, segmenting them into more than two groups, to identify potential significant differences that could contribute to the design of more precise strategies tailored to each group of employees.

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Improving employee satisfaction and loyalty through Employee Engagement interventions and rewards: a systematic literature review

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Introduction

In retailing, the role of employees – especially front-line ones – in directly contributing to customers' satisfaction and future patronage has been widely recognized by literature and practice alike (Barnes et al., 2014). Many studies have shown and validated the linkage between Employee Engagement and customers' service evaluations (Bowen, 2024; Michel et al., 2023), thus encouraging managers to prioritize Employee Engagement for its spillover effect. Moreover, employees in retail also represent "one of the faces of the retail brand" (Masters et al., 2025, p.1), contributing critically to customers' experiences and journeys and, in turn, to their retention. In this sense, employees constitute a "human touchpoint" that characterize in-store experiences and promote customers' patronage of the retailers' channels (Kestenbaum, 2018). Also, with retailers increasingly adopting customer retention strategies – be it loyalty programs, CRM and customer experience management (Han et al., 2021), a further need arises to understand how to engage employees in the promotion of such approaches to customers.

In the current scenario, the growing interest in Employee Engagement is also fueled by the phenomenon called "The Great Resignation". Employees in great numbers and at all levels are voluntarily quitting their jobs, leading Forbes to define it as "retailers' biggest worry" (Kestenbaum, 2018). A recent survey of over 56,000 workers across 50 countries and regions (PWC, 2024) reveals that one in five respondents is likely to change employer within the year.

The present work focuses on Employee Engagement as a key driver of employee retention. From the point of view of employees, Engagement is characterized by a positive motivational work-related state and results in putting efforts and positive energy to reach goals (Xanthopoulou & Bakker, 2021) and performing actions that exceed the requirements of execution of the job (Macey & Schneider, 2008). From the point of view of human resources management and practice (and also supported by recent academic literature), Engagement is a "strategy for managing the workforce aligned with organizational objectives and aimed at giving rise to attitudinal, affective or behavioural responses on the part of the employee such as commitment, energy or performance, as well as personal wellbeing" (Bailey, 2022, p. 4). Structured interventions put in place by Engagement strategies can bear positive consequences for employees and organizations alike (Jenkins & Delbridge, 2013). However, few studies have analyzed Engagement interventions (Beltrán-Martín et al., 2022), and a gap about their effectiveness still exist in this area (e.g., Fang, 2023; Bailey, 2022).

Besides Engagement interventions, other instruments have been linked with Employee Engagement, employee retention and quality of work life improvement, that is benefits and incentives (Nguyen et al., 2017; Rahman et al., 2017). These may range from monetary to non-monetary, from intrinsic to extrinsic, and from individual to collective. Such differences, however, have been scarcely investigated in the literature, to the extent that benefits of various nature are usually merged and referred to as a unique variable, “Rewards and Recognition”, in Engagement frameworks. This is a serious gap to be investigated, since the nature of rewards may have different effects on the receivers’ satisfaction and loyalty. How retention processes fueled by incentives impact Employee Engagement is therefore worth further investigation.

Purpose

Employee Engagement has become a pivotal construct for managing the workforce by eliciting employee’ responses in attitudinal, affective or behavioural terms. Employee Engagement interventions may or may not involve the use of rewards, but their respective roles and interaction in fostering Employee Engagement have been overlooked in literature, also because the difference between the two appears blurred and unclear in several works. These interactions between structured interventions and rewards and incentives have yet to be schematized and neatly discussed.

The purpose of this article is to provide a comprehensive literature review on Employee Engagement interventions and related uses of rewards. We first discuss the key concepts of Employee Engagement, Engagement interventions and rewards by reviewing major studies and theories in Human Resource Management literature. Second, we develop a taxonomy of all different engagement interventions and rewards, highlighting their key characteristics, consequences and moderating factors based on previous research. The work identifies areas of overlap between engagement interventions and rewards, pointing at potential synergies that could be exploited to reach higher efficacy and effectiveness of these initiatives in driving employees’ satisfaction and loyalty.

Methodology

To outline the theoretical reference framework for the study, a systematic literature review of academic studies on Employee Engagement interventions was undertaken. Articles search followed the PRISMA diagram procedure (Page et al., 2021) to ensure an effective source and screening steps reporting. Three electronic databases were employed: Scopus, Web of Science and APA PsychInfo and the search was conducted by title, subject and abstract terms including the keywords “employee engagement”, “work engagement”, “engagement intervention”, “engagement rewards” using the Boolean operators “AND” and “OR” in a combined way. The inclusion criteria concerned English language scientific literature articles that investigated the role of Employee Engagement interventions and rewards in organizational contexts, excluding grey literature, non-academic literature, theses, book chapters and conference papers. A total of 731 articles were manually screened excluding survey studies and papers where the word “intervention” was mentioned exclusively as practical or managerial implications; 334 papers were considered eligible, of them 52 were literature reviews of engagement antecedents and engagement interventions classifications and the remaining 282 papers were elected as the basis to develop the Employee Engagement and reward classification (see Appendix 1).

Findings

Our first results concern Employee Engagement interventions, defined as set of human resource management and development strategies and practices designed to have a positive impact on Employee Engagement (Knight et al., 2019, 2017). Regarding interventions, by analyzing the literature review papers, we found that prior classifications were usually developed based on Employee Engagement antecedents: individual and group psychological well-being, perceptions of good organizational and group climate, leadership and management support, and positive and challenging job environment (Bailey et al., 2017). Building on empirical studies, mostly experimental, we found that most engagement interventions, in practice, are designed on two levels: organizational and personal. The first includes changes in physical and social conditions in which people operate (e.g. organizational culture and context), while the second acts to reach employees' personal and professional growth and development.

Starting from this evidence, we propose a new classification of Employee Engagement interventions into five different macro-categories based on specific aims and targets that are addressed, distinguishing interventions that focus on top/middle or self-leadership empowerment (1), personal resources augmentation (2), organizational work redefinition (3), teamwork cohesion (4) and healthy lifestyle promotion (5) (see Figure 1).

Figure 1 – The proposed Employee Engagement intervention classification

Intervention Category	Intervention Subcategories and Description	N. papers
Top, middle or self-leadership empowerment	(1.1.) Interventions aimed to develop and promote effective leadership behaviors for top managerial roles that have coordinating and supervisory function both on individual or groups staff (1.2.) Interventions designed to encourage self-leadership behaviors to increase self-effectiveness, proactiveness, resilience and problem solving (1.3.) Talent management interventions like coaching, mentorship and empowerment initiatives as for example formal mentoring programs, team leader coaching or peer coaching	12
Organizational work redefinition	Interventions based on promotion of approaches to increase personal resources and cope effectively with potentially stressful situations. Some examples are: (2.1.) Individual or group session of mindfulness exercises. (2.2.) Emotional regulation training to understanding emotional information and acquire a repertoire of skills to positively manage negative emotions.	9
Personal resources augmentation	Interventions focused on job redesign and aimed to improve job control and personalization to increase work meaningfulness and promote operational autonomy. Some examples are: (3.1.) Job crafting interventions: these are the most represented in the studies selected (26 papers). (3.2.) Work-family balance promotion interventions, offering employees flexible scheduling, work hours control and supervisor support.	26
Teamwork cohesion	Interventions developed to improve group climate, build a social network, promote peer cooperation and support and activate the employee participation and identification with the company's goals and values. Some examples are: (4.1.) Ludic/cultural activities (4.5.) Emotional contagion interventions through role shadowing during the working day between collaborators to leverage the crossover effect of work engagement between peers.	59
Healthy lifestyle promotion interventions	The aim of healthy lifestyle promotion interventions is to change workers' lifestyle behavior through goal-setting, feedback and problem-solving strategies and promote corporate wellness. Some examples are: (4.1.) Programs of sedentary work prevention and physical activity promotion (4.2.) Psychological support and counseling services (4.3.) Individual coaching session aimed at improving workers' lifestyles (e.g., smoking cessation, nutrition training)	33

The second findings of this study concern rewards, which research on Employee Engagement has mostly addressed as “extrinsic” and “intrinsic”. Extrinsic rewards are external to the job itself and include all elements provided by the company, which may vary depending on the position or the company policies: they include pay, fringe benefits, bonuses, promotions, etc. Intrinsic rewards, instead, exist and are embedded in the job or in the tasks themselves. They may comprise a wide range of incentives, starting with personal and professional growth to autonomy, recognition and status, praise and support from superiors and co-workers (Mahaney & Lederer, 2006).

Both “extrinsic” and “intrinsic” labels explicitly refer to the “extrinsic” and “intrinsic” types of motivation, which they contribute to reinforce. Extrinsic motivation is the motivation “to do something in order to attain some external goal” (Hennessey et al., 2015, p. 1), which in a working context correspond to firm goals, such as productivity-related ones. As such, firms can improve worker productivity by employing extrinsic rewards (e.g. wage premiums) explicitly tied to goal achievement. As a result, when employees are attracted to these rewards, they can put forth greater effort towards the goal (Goldsmith et al., 2000). Intrinsic motivation, conversely, leads the individual to achieve something for its own sake, and is fuelled by inherent satisfaction in performing a certain action (Ryan & Deci, 2000). Similarly, intrinsic rewards are derived from the content of the job or task itself, and lead to the employee experiencing feelings of self-esteem and accomplishment. As such, employees’ performances can be boosted when they have pride in their work, their efforts are recognized, and their jobs are stimulating and rewarding (Mahaney & Lederer, 2006).

The classification of rewards as “extrinsic” and “intrinsic” can be systematized and enriched at the same time by integrating further dimensions of their nature (see Figure 2). Rewards can in fact be of monetary / non-monetary nature and be directed at the individual employee or at groups of employees (from work teams to divisions to the entire population of workers). Adding the monetary / non-monetary dimension could provide a clearer explanation of why and how extrinsic motivation sustains Employee Engagement and of its limits. Extrinsic rewards, in fact, tend to match monetary ones, as they comprise all financial and tangible benefits, including the base pay level offered by the company for each position as well as any further economic incentive provided to the employee. Distinguishing between individual vs. collective rewards, instead, stresses how employees receive intangible incentives from the environment surrounding them and point management towards working on their overall well-being within the company. The breadth of intrinsic and intangible rewards can therefore be classified according to benefits that are more or less directly oriented at the individual employee. The intersection of these categories is therefore oriented at gathering a better understanding of these rewards’ effects on Employee Engagement.

Figure 2 – Proposed Reward Types framework and classification

REWARD TYPES	Monetary	Non-Monetary
Extrinsic, individual	Salary, pay, remuneration Compensations Variable pay, bonuses Benefits (medical aid or retirement funding)	Work or home integration (i.e. flexibility in work hours and leaves, smart working) Incentive travel
Intrinsic, individual	Awards associated with a tangible benefit	Awards not associated with a tangible benefit Achievements Autonomy Co-workers support Personal growth Recognition, statuses Supervisor support Training and development Work satisfaction
Social, collective		Acceptable working conditions Friendly work environment Open, transformational, ethical leadership or management style Quality work environment (services & technology provided) Social interactions at work Fun activities at workplace

Contributions

The present work has attempted to propose new taxonomies of Employee Engagement interventions and rewards, in order to identify categories that would not only encompass multiple dimensions (i.e. intervention objectives and subjects to take part in the intervention; various elements defining a reward's nature) but also be representative of what companies nowadays are actually implementing to engage their employees. This will be helpful in supporting research about the effectiveness of Engagement interventions and benefits, allowing to take into account various aspects that contribute to the achievement of specific outcomes.

A major concern of this work is to define systematically how organizations try to implement engagement interventions and rewards to activate motivational processes of engagement that allow employees to be more loyal and committed to organizations with a positive impact on customers, quality of working life, and job performance. Results from the analysis of literature, following the two frameworks proposed, highlight intersections both within categories and between interventions and rewards, pointing towards new research directions for the understanding of Employee Engagement dynamics.

Implications

Retailers are increasingly adopting customer-focused strategic approaches whose goal is customer retention and loyalty (Han et al., 2021). Such strategies may hinge on formal loyalty programs and/or on Customer Relationship Management or Customer Experience activities, and in all cases, they make use of a broad variety of rewards. This creates a situation where, on the one hand, employees get increasingly exposed to rewards and incentives destined for consumers, which may impact their liking and sensitivity to the topic, and, in turn, to the rewards (or lack of) designed and directed specifically to them by the company. On the other hand, companies increasingly recognize the need to engage employees in support of such loyalty practices and may even see the same practices and something that can “play double duty”, extending the same (or similar) activities and rewards to employees to serve the purpose of involving them more, based on the assumption that “employees are consumers after all”.

Therefore, this novel interplay between rewards for customers and rewards for employees is an emerging area of interest for academics, and it might be considered in models aimed at assessing impact on Employee Engagement. The valence of the influence on Employee Engagement is also to be explored: in fact, seeing so much being done for consumers may shed light on the very little being done to make employees loyal, or might make employees more demanding, negatively affecting their engagement.

In recognition of the fact that higher Employee Engagement in support of the company loyalty efforts is highly desirable, retailers are paying more and more attention to engaging employees to sustain the mentioned loyalty practices (Ziliani & Ieva, 2025). The above mentioned interplay is therefore of utmost interest for companies, where improved knowledge and a common language about rewards, such as that provided by our frameworks on interventions and rewards, can promote understanding, dialogue and cooperation between human resources and marketing departments, leading to better design and coordination of engagement efforts for customers and employees.

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RETAIL LOYALTY AT RISK: WORK CONDITIONS THAT MATTER

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Keywords

Employer attractiveness; retail industry attractiveness; retail industry loyalty; retail employment conditions; frontline employees

Introduction

At around 60.5%, the turnover rate in the retail and wholesale industry is the highest in the industry (Team Stage, 2024). Workforce shortage and disloyalty of employees are the main problems that the retail sector is facing for years (Karkkainen, 2024). The entire retail sector is currently facing a profound crisis, marked by a significant number of insolvencies (Adegeest, 2024). The even bigger problem therefore is that the overall situation in the industry is quite tough and there are too few employees and, above all, too few qualified employees working in retail (Fuller et al., 2022). Due to factors such as poor working conditions, inflexible working hours, stress, customer deviance, career opportunities or salary, the retail sector has a very negative reputation as an employer (Katz, 2024; Waldman, 2024; Mayr and Teller, 2023). Consequently, the retention rate of retail employees is comparatively low (Sainato, 2024). This fact is particularly problematic as the retail industry is the most important employer in developed countries (National Retail Federation, 2024). Having loyal employees is critical to the success of retailing as an industry as they not only provide stability and reduce labor shortages, but also improve customer interaction, which is crucial for sales performance (Spreitzer et al., 2017; Schlager et al., 2011). In order to address these challenges and ensure employee loyalty within the retail sector, it is therefore essential to create attractive working conditions. Research on employer attractiveness and loyalty is extensive, with a particular focus on the concept of employer branding (Theurer et al., 2018). Several studies deal with factors that promote employer attractiveness, such as working environment, career advancement, colleague relationships or competitive salaries (Rampl, 2014; Tang et al., 2014; Berthon et al., 2005). Strategies for attracting and retaining top talent are also being studied intensively (Benraïss-Noailles and Viot, 2021; Staniec and Kalińska-Kula, 2021). However, despite the wealth of research in broader contexts, there is a notable research gap in studies specifically addressing these issues within the retail sector (Tang et al., 2014; Kim et al., 2009; Arndt et al., 2006). Furthermore, and this is also the focus of this study, these studies deal with the employee retention rate and loyalty to a certain employer. Only a handful of studies, and those not related to the retail sector, explore the topic of employee retention and loyalty to the industry as a whole (Burmann et al., 2007), which makes research on employee retention and loyalty within the context of retail conditions and retail industry attractiveness particularly new and relevant.

Purpose

The purpose of this study is to identify specific retail conditions that influence employee retention intentions and loyalty to the retail industry. By examining key environmental factors, the study aims to explore what drives employees to remain in the sector and how these conditions shape long-term industry commitment. Additionally, it extends the concept of employer attractiveness to industry attractiveness, highlighting critical factors that encourage sustained employment in retail. This study also investigates personal- and work-related moderators that influence the relationship between retail conditions, retention intentions and industry loyalty. Ultimately, the findings provide both theoretical insights and practical strategies to strengthen employee loyalty and address the high turnover rates in the retail industry. Building on the job embeddedness theory (Mitchell et al., 2001), this research examines how employees' connections to their job and environment influence retention. It explores how retail conditions impact employees' embeddedness in the retail industry, shaping their intention to stay and their loyalty.

Conceptual framework

According to the job embeddedness theory by Mitchell et al. (2001), which explains how work-related and social connections, along with personal fit, influence the retail industry retention, the conceptual framework consists of four main dimensions: retail conditions, intention to stay with the employer, intention to stay in the industry and industry loyalty. Therefore, the effects of specific retail conditions on the intention to stay with the employer and in the industry and also on industry loyalty are investigated. In addition, the effects of the intention to stay with the employer on the intention to stay in the industry and industry loyalty are measured. Subsequently, it is analyzed whether there is an associate effect between the intention to stay in the industry and industry loyalty. Furthermore, both personal-related and work-related moderators that assess the moderating effect of retail conditions on employees' intention to stay in the industry and their industry loyalty are identified.

Methodology

For this study, a quantitative research design is chosen. For this purpose, (n = 1,006) frontline employees in the retail sector in a Western European country are questioned via a web-based survey. The survey participants are selected by pre-defined criteria, which are the following: at least 16 years old and current employment in the retail sector in Austria for at least six months (position as store manager, department manager, salesperson, cashier, shelf supervisor or apprentice). The structural equation model (SEM) relies on established scales for key constructs, utilizing 5- and 7-point Likert scales while removing low-loading items. The research model is then tested using partial least squares (PLS) path modelling with SmartPLS (Hair et al., 2021). Prior to analyzing the structural model, the measurement model to confirm internal consistency, composite reliability (CR), average variance extracted (AVE), convergent validity and discriminant validity are assessed. Finally, model robustness is examined by analyzing the impact of control variables.

Findings

The findings reveal several direct effects of retail work conditions on employee retention intentions and industry loyalty. Most retail conditions influence the intention to stay at the employer, with financial aspects and career development exerting the strongest effect, while customer-related aspects show no significant impact. Similarly career progression and the working environment also have substantial effects on the intention to stay in the industry, whereas customer interactions and overall work-life dynamics do not exhibit direct effects. In contrast, all retail conditions play an important role in the study of industry loyalty, with customer interactions playing a significant role in addition to financial aspects and development. The importance of teamwork and work-life balance is also evident. Additionally, the impact of retail conditions on the intention to stay at the employer is generally stronger than their effect on the intention to stay in the industry, highlighting the importance of employer-level factors in shaping short-term retention before influencing long-term industry commitment. Furthermore, the findings indicate that personal- and work-related moderators, such as working schedules and job tenure, significantly influence the relationship between retail conditions and both intentions to stay in the industry and industry loyalty. Lastly, it can be seen that the effects of all retail conditions on industry loyalty are mediated by intention to stay at the employer and intention to stay in the industry, with the exception of customer interactions, which do not follow this pattern. These findings provide crucial insights into how specific work conditions shape employee retention and long-term commitment to the retail industry.

Contributions

This study makes important practical and theoretical contributions by addressing employee retention in the retail industry. Theoretically, the study expands the concept of employer attractiveness to industry attractiveness, with a focus on industry loyalty, an area largely overlooked in research. It also shifts academic attention to retail-specific retention and loyalty factors and tests key moderators influencing employee commitment. What is entirely new is the link between industry attractiveness and industry loyalty in retail, a topic previously unexplored. The value of this study lies in its ability to bridge theory and practice, providing both a deeper academic understanding of industry-wide employee retention and actionable insights for improving workforce stability in retail.

Practical implications

The findings of this research provide valuable insights for the retail industry. Practically, it identifies key retail work conditions that influence employees' intention to stay and industry loyalty, while also examining personal and work-related moderators that shape this relationship. This study reveals approaches for reducing turnover and increasing workforce stability, helping retailers create better conditions for long-term employment, lower recruitment costs, and enhance business success. In addition to career development and financial security, customer interactions, colleague interactions and job tasks play a key role. Retailers should focus not only on promotion opportunities but also on creating a positive work environment and meaningful tasks. Encouraging employees to engage with customers authentically can improve retention and long-term industry commitment. This study also highlights the need to tailor retention strategies to individual employee needs, considering both personal and work-related factors. These insights can help improve employee satisfaction, reduce hiring costs, and build a more loyal workforce, ultimately benefiting the overall success of the retail industry (Otto et al., 2020). By implementing these findings, retailers can strengthen their reputation as employers, tackle the current labor shortages and make the sector more appealing to potential employees. In the long run, improving employee loyalty can lead to financial benefits, such as lower turnover costs, higher productivity and greater profitability, while also supporting the long-term sustainability of the retail industry (Ton and Huckman, 2008).

Research limitations and outlook

A limitation of this study is its cross-sectional design, which only captures a snapshot of the factors affecting employee retention and loyalty at a single point in time, without allowing for an analysis of long-term effects or causal relationships. Additionally, this study is limited to its focus on Western European retail employees, which may not reflect the experiences of workers in other countries. Future research could address these limitations by using longitudinal approaches to track changes over time and expanding the sample to include a more diverse group of employees across different regions.

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When robots touch: Investigating human-robot interactions in retail settings

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Introduction

Service agents are a crucial factor for success in physical retail and service settings (e.g., Sands *et al.*, 2022; Breugelmans *et al.*, 2023). With evolving technology, customers' service experiences are, however, subject to change (Van Doorn *et al.*, 2017; Sands *et al.*, 2022)). Traditional human-to-human interactions might shift or have already shifted to technology-driven interactions. The emergence of service robots in physical retail exemplifies these technological advances, which have enabled robots to take on tasks that have traditionally been carried out by humans (Leo and Huh, 2020). Not only human service agents but also robot service agents can now help customers in a store (Mende *et al.*, 2019). The humanoid robot ARI welcomes customers to a service centre in Barcelona and performs and supports tasks of a manned service desk (PAL Robotics 2022). Pepper, another humanoid robot, has been used for customer service in Akzenta supermarkets in Germany (ENTRANCE Robotics 2018).

Independent of the service agent being a human being or a machine, service agents, in general, serve as sensory stimuli via verbal (sound) and non-verbal components (e.g., touch) and thus influence the customer's perception of the service interaction (Sundaram and Webster, 2000). Whether a customer is willing to engage in such an interaction, largely depends on his/her trust in the agent (e.g., Law *et al.*, 2021).

Touch represents a comprehensive and sensitive sensory component and takes a critical role in forming consumer experiences (Saleh *et al.*, 2023; Krishna *et al.*, 2024). The effect of touching customers has predominantly been studied in the context of human-human service interactions in service research(e.g., purchase in Guéguen and Jacob, 2006; tipping behavior in Luangrath *et al.*, 2020). From a robot-human service interaction perspective, touch has mostly been overlooked in research on human-robot interaction (Willemse *et al.*, 2017; Law *et al.*, 2021; Albrecht *et al.*, 2022; Hayashi *et al.*, 2022) despite its vital role for human-robot bonding and communication (Andreasson *et al.*, 2018). However, not all types of touch are suited for a human-human or robot-human interaction since some types might make consumers feel less comfortable (Law *et al.*, 2021). Thus, as a first research objective, the current study investigates how and why consumers react to touch (vs. no touch) initiated by the service agent (i.e., service employee or service robot) as to trust in the respective service agent.

Moreover, service literature shows an increasing interest in warmth and competence as driving factors for customers' evaluation of service providers. Whether in human-human interactions or robot-human interactions, warmth and competence have been seldomly studied simultaneously, although these two factors reveal an interesting area of tension. Especially when it comes to relational aspects in service interactions, warmth, on the one hand, is suggested as a dominant influencing factor for the interaction outcome. Competence, on the other hand, refers to transactional aspects of the service interaction (Güntürkün *et al.*, 2020) Previous studies on touch in human-human interactions show that perceived competence of the service agent increases when s/he touches the customer (e.g., Hubble *et al.*, 1981). In contrast, no such effect has been shown regarding warmth in human-human interactions (e.g., Pattinson, 1973). In robot-human interactions, results by Belanche *et al.* (2021) show an effect of warmth and competence on loyalty toward a service provider. Thus, as a second research objective, the current study investigates the role of warmth and competence in driving interaction comfort and trust in the service agent.

Purpose

The knowledge concerning how service robots perform in retail settings compared to humans is still much needed (Biswas, 2019; Belanche *et al.*, 2021). Due to the importance of touch in everyday social interactions like service encounters (Moore and Walker, 2019; Krishna *et al.*, 2024), it is essential for service providers and retailers to understand *how* and *why* customers react to being touched by a service robot versus a service employee, so that they know what it means for consumers to interact with either human or robot service agents. Moreover, it is important for service providers and retailers to know whether they should foster warmth and/or competence of the service agent.

Conceptual Framework

We investigate the effect of different types of touch in human-human and human-robot interaction in retail service settings. Based on uncertainty reduction theory (Berger and Calabrese 1974), we argue that social cues in the form of different touch types signal different levels of intimacy and normativity in frontline service encounters and influence well established psychological constructs of service relationship quality. We propose that situations of touch (vs. no touch) in service interactions lead to a decrease in perceived interaction comfort and thus to a reduction in perceived trust in the service agent. Furthermore, we propose that touch (vs. no touch) negatively influence the warmth and competence of a service relationship and thus negatively impact perceived comfort and subsequently perceived trust. Since a robot as a machine mimics the human capability of touch, we also propose that these effects will be stronger for robots than for humans.

Methodology

We investigated the proposed relationships in an experimental study. Participants were randomly assigned to the conditions of a lab experiment with a 2 (touch type: hug, no touch/waving) × 2 (human vs. robot frontline service employee) between-subjects design. In total, 200 female participants were exposed to either an actual humanoid robot, Pepper, or a female human service agent in a realistic shopping situation. Participants were recruited from three different locations (a shopping mall, a trade fair, and a university with working students), and the experiment took place at all three locations in a standardized lab environment. We chose only female participants because previous research indicates consistent gender differences in the perception of and reaction to touch (e.g., Russo et al., 2020).

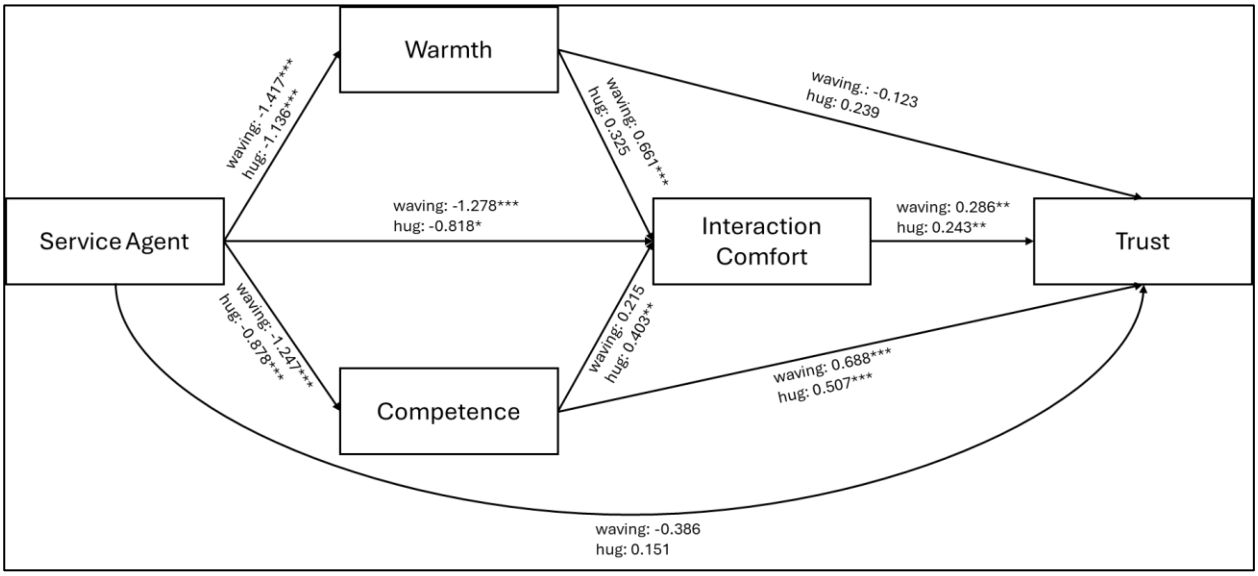
All experimental conditions followed the same structure: (1) introduction to the shopping situation, (2) interaction with a service agent, and (3) goodbye from the service agent. At the beginning of the experiment, participants received a scenario description. They were instructed to enter a store for children's clothing to buy a T-shirt for a friend’s daughter. A human or robot service agent assisted throughout the scenario and either hugged or waved at the customer at the end of the transaction as a farewell. To ensure that the behavior of the human and robot service agents remained consistent, the Wizard of Oz paradigm was applied.

We measured trust in the service agent, interaction comfort, warmth, and competence. Perceived trust in the robot was measured by averaging two items taken from van Pinxteren et al. (2019). Perceived interaction comfort was measured following Webb Luangrath et al. (2020) and van Pinxteren et al. (2019). Perceived competence and warmth of the service agent were measured with items adapted from Jha et al. (2020). Furthermore, we assessed normativity, appropriateness, and realism as manipulation checks. All assessed constructs indicated high levels of internal consistency, and all manipulation and realism checks confirmed that participants perceived the conditions as intended.

Findings

We conducted indirect effect analyses separately for the two touch types (no touch/waving vs. hug). We report the results of the no touch/waving condition first. Using Process Model 80 (Hayes, 2018), we tested whether the service agent condition (human vs. robot) leads to warmth and competence; which in turn predicts interaction comfort, which in turn predicts trust in the service agent. Results revealed competence as a partial mediator via interaction comfort in the touch condition (service agent->competence->interaction comfort->trust: b=-.086, 95% CI [-.210; -.014]; service agent->competence->trust: b=-.445, 95% CI [-.845; -.148]), while warmth acted as a full mediator in the no-touch condition (service agent->warmth->interaction comfort->trust: b=-.268, 95% CI [-.586; -.055]; service agent->warmth->trust: b=.174, 95% CI [-.554; .741]). Furthermore, we also found interaction comfort to be a mediator for trust in the no-touch (service agent->interaction comfort->trust: b=-.365, 95% CI [-.651; -.112]) and touch condition (service agent->interaction comfort->trust: b=-.198, 95% CI [-.491; -.031])

Figure 1: Indirect Effect Analysis (Process Model 80)



*Note. Experimental condition: service robot condition 1, human condition 0; unstandardized beta-coefficients are reported; * p<.05, ** p<.01, *** p<.001*

To further examine the impact of touch type and service agent type, we conducted a two-way ANOVA to test for an interaction effect between these factors on perceived interaction comfort. The analysis revealed a significant main effect of the nature of service agent ($M_{service\ robot}$ = 3.71, M_{human} = 5.73;F(1, 196) = 109.15, p<.001) and a significant main effect of the touch type (M_{hug} = 4.44, M_{waving} = 5.01;F(1, 196) = 8.80, p<.01). The interaction between the nature of the service agent and the touch type was significant (F(1, 196) = 5.98, p<.05). Touch initiation (hug) leads to a decrease in interaction comfort towards the service agent in the human service interaction ($M_{hug,\ human}$ = 5.20, $M_{waving,\ human}$ = 6.24, p<.001). However, touch initiation (hug) does not lead to a significant change in interaction comfort towards the service agent in the service robot interaction ($M_{hug,\ robot}$ = 3.66, $M_{waving,\ robot}$ = 3.76, p>.05).

Contributions

Our results indicate that human agents outperform service robots in the investigated scenario and confirm previous research results. When the service agent touches the customer, we identify a partially mediated effect on trust through competence and interaction comfort. When the service agent does not touch, we identify a fully mediated effect on trust via warmth and interaction comfort. Additionally, we find that the service agent, regardless of touch, influences trust through interaction comfort. All identified effects are negative, meaning that when humans wave, it has a more positive effect on warmth and, subsequently, on comfort and trust than when robots wave. When humans hug, they are perceived as more competent and create greater comfort and trust than robots do in such a situation. Regardless of whether humans hug or wave, they have a more positive effect on comfort and trust than robots. Furthermore, we investigated the interaction effect between the nature of the service agent and touch type. We found that touch decreases interaction comfort for human agents but not for service robots, as participants feel almost equally comfortable with a service robot waving versus hugging them. This result suggests that social norms for humans may not be equally important for robots.

Practical Implications

From a practical point of view, this implies that while service robots are not yet able to outperform humans in the social cue of touch, they may have the opportunity to do so in the future. Humanoid robots, although designed to mimic humans, are still perceived as machines. Machines are not bound by social norms; therefore, future humanoid robot developments should leverage this effect to introduce previously impossible social interactions (such as hugging) in the marketplace.

Limitations

Regarding the limitations of our study, we note that the effects of the nature of service agents and touch types were examined within a lab experiment. Although the experiment involved a live service encounter, future research should strive for greater external validity.

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Challenges and promotion of employee needs in stationary retail

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Introduction

The service sector contributes about 70% to Austria's gross value added (Statista 2022a). Within this sector, retail accounts for over one-third of total employment, making it the second-largest employment sector in the country, with more than 687,530 employees in 2019 (Statistik Austria 2021, 2022b). However, the sector is undergoing structural changes, with a 1.44% decline in employment in 2020 after years of growth (Statistik Austria 2022a). Demographic projections indicate a decrease in the working-age population from 61.4% in 2021 to 52.0% by 2100 (Statistik Austria 2022b), intensifying labor competition. Employee turnover, a persistent issue since the 1990s (Ramaseshan 1997), has been exacerbated by demographic change, contributing to the "war for talent" (Beechler, Woodward 2009). As a result, employee retention is a key focus (Gallardo-Gallardo et al. 2020), as high turnover increases recruitment and training costs and negatively impacts organizational performance (Olubiyi et al. 2019). Regarding effective strategies and measures for employee retention, a comprehensive understanding of employees' needs and expectations is required (Morgan & Goldsmith, 2017).

Purpose

To address demographic challenges, HRM in stationary retail must implement measures to enhance employer attractiveness (Tanwar, Kumar 2019). Retaining motivated, long-term employees is crucial for competitiveness in an increasingly pressured sector (Merkle 2020). Maslow's (1943) hierarchy of needs has significantly influenced HRM research (Rojas et al. 2023). While extensive research has been conducted on employee retention (Cappelli 2000; Christensen Hughes, Rog 2008; Barhate, Dirani 2022), studies specifically focusing on stationary retail remain scarce. Garmendia et al. (2021) confirm the lack of research on HR measures' impact on recruitment and satisfaction in retail, despite challenges like talent shortages and turnover. This study will conduct qualitative interviews based on Maslow's model to identify employees' needs with influence on employer attractiveness in stationary retail, contributing to strategies for improving employee retention and reducing high turnover within the sector.

Methodology

To explore employee retention and employer attractiveness in stationary retail, we followed a qualitative approach, focusing on employees' workplace needs and factors influencing retention. Unlike quantitative methods, qualitative research analyzes individual cases to capture diverse perspectives and enhance understanding of influencing factors (Perkhofer et al., 2016; Mayer, 2013). Given the lack of empirical studies on HR measures' impact in retail, especially on employee's satisfaction and needs (Garmendia et al., 2021), a qualitative approach provides valuable insights.

Purposive sampling was used to select participants with relevant experience (Etikan 2016). Nineteen in-depth interviews were conducted, including 13 employees with at least one year of retail experience and six managers from various levels, following the principle of theoretical saturation (Coyne 1997; Kuckartz, Rädiker 2014). In-depth interviews enable access to underlying motives and thought patterns, offering a profound understanding of employee attitudes and needs (Kepper 1996). Maslow's hierarchy of needs forms the conceptual basis for the semi-structured interview guide (Mayring 2023).

Interviews were conducted in person, recorded with consent, and fully transcribed (Mayer 2013). Data analysis followed Mayring's (2022) structured qualitative content analysis, employing a deductive category system based on Maslow's hierarchy of needs, which is expanded inductively as needed.

Findings

Diverse needs across Maslow's hierarchy of needs were identified. Working hours are a central aspect of physiological needs, with many employees emphasizing the importance of work-life balance, which remains challenging in retail. Long working hours and weekend shifts disrupt employees' regular rhythms, which can lead to issues such as sleep deprivation and social constraints. Appropriate breaks and retreat spaces are often unavailable due to a fast-paced and understaffed work environment. Furthermore, sufficient income is a key concern, as base salaries in retail are perceived as low, reducing employer attractiveness. Additional retention factors include free or discounted meals and clean, weather-protected and well-equipped workspaces.

In terms of safety and security needs, financial job security is crucial and should be ensured through long-term job stability and the economic stability of the company. Many retail employees feel treated like a number and interchangeable, especially in the event of mistakes, which partly explains the high turnover. Workplace safety regarding health, including proper protective equipment and maintenance, is also important but not always guaranteed. A lack of physical and mental health measures signals low employer appreciation, while clear expectations enhance security. Verbal and sexual harassment, especially in the checkout area, further reduce retail's attractiveness.

Frequent customer contact and social interaction positively impact employee retention, particularly for communicative employees. Good relationships with managers, flat hierarchies, and empathetic communication foster appreciation and retention. Team cohesion, supported by team-building activities, an attractive corporate culture and the acceptance of diversity strengthen retention.

Employees seek recognition and appreciation through fair compensation and performance-based bonuses. Regarding recognition, they also value regular feedback and social recognition from their employer. Society's perception of the retail sector is crucial to enhancing its employer attractiveness, as careers in retail involves much more than stocking shelves and cashier duties.

The need for self-actualization is often seen as difficult to achieve in retail due to rigid corporate structures and limited career advancement. Employees face a lack of further education and development, transparent career opportunities, and greater scope for creativity and individuality. Moreover, finding meaning in work and setting clear, achievable goals is crucial, with employers supporting these efforts.

Contributions and Practical Implications

This study examines employee needs as a matter of retention in stationary retail, offering empirical insights into how companies can enhance their employer attractiveness in the war for talents. Drawing on Maslow's hierarchy of needs, the research identifies factors that support employer attractiveness in every level, such as flexible work models to promote work-life balance, a more attractive performance-based remuneration, financial and health-related job security, and respectful, equal interaction. Appreciation from managers, colleagues, and customers, along with opportunities for self-fulfillment through further education, career development, and autonomous work, also play a crucial role.

While Maslow's model provided a profound framework, the study indicates a necessary adaptation, particularly with regard to work-life balance and flexible hours, which are now essential for employee retention but were not considered in the original theory. In times of demographic change and labor shortages, retaining employees in retail has become increasingly important. Despite numerous studies on employee retention, there is limited research specifically focused on the retail sector.

The retail industry offers a wide range of career opportunities, including management positions with significant personnel and revenue responsibility, particularly in leading teams with a high degree of diversity. Success in these roles requires not only professional qualifications but also strong social and leadership skills. As employees in retail often perceive a lack of self-actualization opportunities, these opportunities need to be communicated more effectively.

The results show that transparency and communication need improvement. Additionally, adapting shift models could help to enhance work-life balance and improve employee efficiency. Training programs for managers represent a possible approach to optimization.

Practical recommendations for HR management to better meet employees' needs in retail include offering flexible work arrangements, enhancing salary structures with performance-based bonuses, and creating transparent career. These measures are crucial to improving job satisfaction, retention, and employer attractiveness. Given the mental and physical strain of demanding working hours, offering more flexibility and aligning with employee preferences for stability will help improve retention.

Social implications

Key aspects of social sustainability, such as good working conditions, equal opportunities, employee orientation, and empowerment, are closely linked to work-related well-being and satisfaction (Boström 2012). This study highlights that addressing employee needs strongly supports social sustainability, which is especially crucial in retail facing labor shortages due to demographic changes (Dornmayr & Riepl, 2022). According to Barney's Resource-Based View (1991), the scarcity of human resources significantly impacts retail competitiveness. Fostering social sustainability enhances employer attractiveness and retention (Ketschau, 2017), making it essential for retail companies to embrace these principles and adapt to the changing world of work.

Research limitations and outlook

The main limitations of this study stem from its qualitative nature, including a small sample size, potential interview bias, and limited generalizability of the findings (Roebken & Wetzel, 2016). Future research could adopt a quantitative approach to address these constraints.

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Shopping as a Caregiver from Baby Boomers' Perspective: Implications for Fashion Designers and Retailers

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Introduction

Due to the combined impact of declining fertility rates and increasing life expectancy, the number of Canadian seniors aged 65 or older grew by 18.3%, reaching 7 million between 2016 and 2021 (Statistics Canada, 2022). A 2015 report (Government of Canada, 2015) also indicated that one million informal caregivers were aged 65 or older. In other words, many older individuals not only navigate personal physiological and social role changes but also take on the responsibility of caring for other elderly family members and friends.

In retail shopping, whether online or offline, most research has focused on purchasing for oneself rather than for others.-When it comes to shopping for others, researchers often focus on gifting (Davies et al., 2010; Ward and Tran, 2008) rather than caregiving. To the best of our knowledge, no study has explored the shopping experience of clothing for other elderly individuals. Given the growing aging population, the senior clothing market warrants greater attention. A forecast of the U.S. elderly clothing market projected that its size would increase almost threefold, from US$11.79 billion in 2023 to US$33.21 billion in 2030 (Verified Market Research, 2024). To address the current research gap and gerontological issues, this study examined baby boomers' apparel shopping experiences as caregivers, focusing on two key areas: the physical store environment, and product offerings.

Literature Review and Purpose

Shopping Value Dimensions

Consumer experience can be defined as the "cognitive and affective assessment of all direct and indirect encounters with the firm relating to their purchasing behaviour" (Klaus and Maklan, 2013, p. 227). In the context of apparel shopping, this experience involves both cognitive and affective processing, often driven by a combination of utilitarian and hedonic values. "Utilitarian" value is linked to instrumental attributes and cognitive benefits, whereas "hedonic" value relates to sensory attributes and affective benefits. According to some researchers (Büttner et al., 2014), utilitarian value is a task-oriented process derived from functionality, value-for-money, availability, accessibility, and convenience, while hedonic value arises from consumer's feelings such as fun, excitement and pleasure. In many situations, consumers experience both values simultaneously during a shopping trip.

The current qualitative study draws on the theory of consumption values (Sheth et al., 1991; Turel et al., 2010) to explore the shopping experience of apparel purchases for elderly individuals. This theory suggests that consumers consider multiple value dimensions when making purchase decisions. Despite the importance and widespread use of utilitarian and hedonic dimensions in investigating consumer choices across various disciplines, this study was not limited to these two value dimensions. Through qualitative research, participants can freely express their perceived, objective and subjective values based on their existing knowledge, observations, and experiences. As Ritchie et al. (2014) asserted, qualitative research is a naturalistic, interpretative approach that helps us better understand participants' actions, beliefs and values within their sociocultural environment.

Attributes of Fashion Products and Retail Experiences

Attributes or cues can be categorized as either "intrinsic" or "extrinsic" (Hines and Swinker 2001; Rahman and Koszewska, 2020). Intrinsic attributes refer to inherent properties or characteristics of a physical products (e.g., clothing) or a physical space (e.g., a fashion retail store). For example, intrinsic cues of clothing products may include style, colour and fabric, while extrinsic cues may include price, brand name, and warranty. In the context of retail spaces, intrinsic cues may include décor, signage, lighting, and fixtures, whereas extrinsic cues may include promotions, mobile payment options, and return policy. In other words, intrinsic cues are more concrete and observable than extrinsic cues. Many studies (Eckman et al., 1990; Newcomb, 2010) have revealed that consumers rely more heavily on intrinsic cues than extrinsic cues when evaluating apparel products. However, other studies (Ahmed *et al.*, 2004; Rao and Monroe, 1988) found that consumers are more likely to use extrinsic cues as surrogate indicators when they are unfamiliar with a product or shopping for a low-involvement item. Regarding the retail environment, Parsons (2011) suggests that both visual and aural stimuli play a vital role in the shopping experience, with elements such as interior design, décor, lighting, and music.

Apparel shopping can be a complex process influenced by numerous factors. In most cases, consumers do not base their purchase decisions on a single feature. Instead, they consider various attributes, such as a store's ambience and the overall quality of a product. Therefore, it is crucial to identify which attributes play a more significant role in the shopping process. Although many prior studies have focused on enhancing the shopping experience and maximizing sales, none have explored the experiences of caregivers. As a result, little is known about the salient impact of various attributes and the challenges the caregivers face when shopping on behalf of others.

Conceptual Framework

In Figure 1, the pink area represents apparel product, while the blue area represents retail environment. We assume that shoppers are more likely to seek multi-dimensional values based on the benefits of both intrinsic and extrinsic attributes associated with these two areas. Although caregivers were the ones conducting the shopping, the recipients' feedback also influences their shopping choice and experience. Due to their personal relationship, it is reasonable to believe that caregivers must have a certain level of knowledge and understanding of the recipients' needs and preferences. We believe this study can help fashion practitioners and retailers identify areas for improvement, such as (re-)designing products and the retail environment to enhance baby boomer caregivers' shopping experiences and better meet care recipients' specific needs.

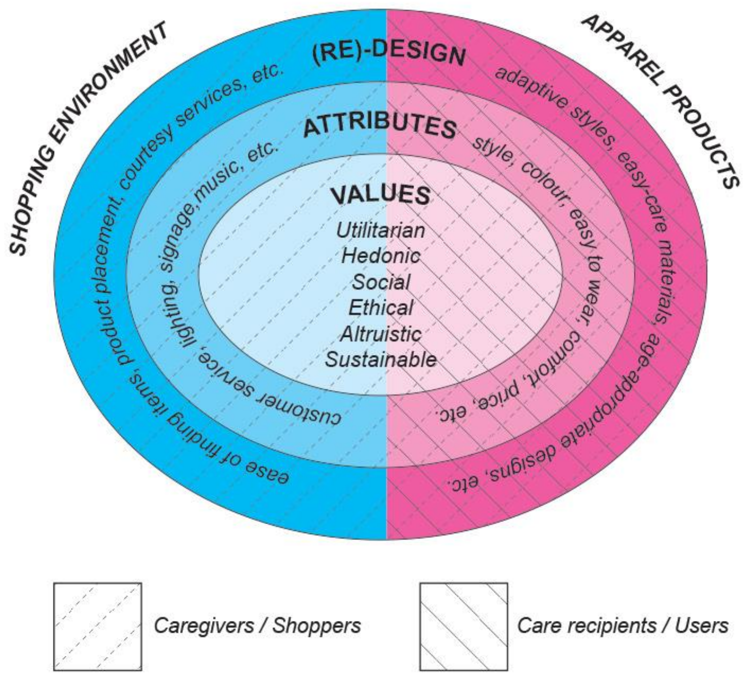

Figure 1. Shopping for Others: Apparel Products and Shopping Environment

Methodology

The current study focuses on baby boomers (1946-1965) as informal caregivers, and the following recruitment criteria were used: participants must be Canadian residents, baby boomers, and have purchased clothing for elderly individuals within the past three years.

This study employed a mixed methods research approach. A self-administered online survey was developed to collect demographic and shopping behaviour data, as well as information about the care recipients, prior to the virtual interview. The survey included questions on age, gender, income level, educational attainment, recipients' health condition, the closeness of caregiver-care recipient relationship, important aspects of the physical retail attributes, and key attributes of clothing products.

A total of 15 participants, including 7 men and 8 women, were recruited for one-on-one semi-structured interviews. This sample size aligns with the guidelines outlined by Hennink and Kaiser (2020), which suggest that qualitative studies in social science and medical research typically reach saturation with 9 to 17 participants. To ensure data accuracy and transparency, all interviews were audio-recorded with the participant's consent and subsequently transcribed, and the data was analyzed using inductive coding.

Findings

Pre-Interview Survey

As shown in Table 1, the participants, aged 61 to 78. Among the 15 participants, two worked full time, two part-time, and the remainder were retired. Regarding their relationship with and information about the care recipients, nearly half (n=7) shopped for their spouse or partner, followed by their mother (n=4), in-laws (n=2), father (n=1), and friends (n=1). Most of the participants had a very close relationship with the care recipients. On a 20-point scale, 12 out of 15 rated their relationship a perfect 20, while the remaining three gave ratings of 10 (P3), 15

(P11), and 0 (P13). It is reasonable to assume that baby boomers in this study had been shopping for the elderly for some time and were concerned about their well-being.

According to the survey findings, participants rated 'ease of finding items' ($\bar{x}$=3.93, S.D. 1.33) as the most important factor influencing their shopping experience in physical stores, followed by 'courteous treatment and assistance from sales personnel' ($\bar{x}$=3.86, S.D. 1.59) and 'readable labels and tags' ($\bar{x}$=3.86, S.D. 1.59). In determining the clothing choices for recipients, 'comfort' ($\bar{x}$=4.26, S.D. 1.43) was rated as the most important attribute, followed by 'ease of putting on and taking off' ($\bar{x}$=4.13, S.D. 1.40) and 'ease of care' ($\bar{x}$=41.3, S.D. 1.40).

Code	Caregiver's Age	Caregiver's Gender	Care recipient's Relation (Age)	Care Recipient's Physical Condition	Relationship	Sole Caregiver
P1	64	Female	Mother (88)	16/20	20/20	Yes
P2	68	Male	Spouse/Partner (68)	12/20	20/20	Yes
P3	61	Female	Spouse/Partner (76)	12/20	10/20	Yes
P4	75	Male	Friend (80)	12/20	20/20	Not sure
P5	68	Male	Mother-in-law (90) & Father-in-law (92)	4/20	20/20	Yes
P6	77	Female	Spouse/Partner (85)	12/20	20/20	Yes
P7	66	Female	Spouse/Partner (70)	16/20	20/20	Yes
P8	64	Male	Spouse/Partner (92)	20/20	20/20	Yes
P9	77	Female	Spouse/Partner (78)	12/20	20/20	Yes
P10	76	Female	Spouse/Partner (77)	12/20	20/20	Yes
P11	65	Male	Father-in-law (93)	4/20	15/20	No (my sister)
P12	75	Female	Mother (70)	16/20	20/20	Not sure
P13	78	Male	Mother (92)	20/20	0/20	No (my daughter)
P14	66	Female	Mother (96)	12/20	20/20	No (my sister)
P15	67	Male	Father (93)	8/20	20/20	Yes

Table 1. Information of Caregivers and Care Recipients

Care Recipient's Physical Condition: 0=poor; 20=excellent

Relationship between Caregiver and Care Recipient: 0=distance, 20=close

Interview Results

Quick and Easy

The interview findings are consistent with the survey results. Many participants, particularly men, emphasized the importance of easily finding items. A possible explanation is that they may have busy schedules, not enjoy shopping, have little time to spare, or tend to be impatience. The following excerpts provide insights into their shopping experience and priorities.

> I want to get in and get out. I don't want to have the sales personnel hovering. But I want them to be courteous and point me to the merchandise. … If I get a salesperson brushes me off or has a bad attitude, chances are I'll leave the store. (P2, male)

> Ease of finding items was really important because my sister, brother, and I would usually chat, and have an idea of what he [care recipient] needed based on the last visit that one of us had. So, we had a list … and the easier it was to find those items the less time you had to spend in the store. (P11, male)

> I try and deal always with the same salespeople. It makes the task a lot easier. They know why I'm there. (P13, male)

In addition to the ease of finding clothing items, convenient parking was very important for P13. For the same reason, he didn’t want to waste time searching for a parking space.

> Parking for me is always the most important. If I go to a restaurant and there's no parking, I'm not going there. … For me, it’s convenient, I can just drive up and park quickly. (P13, male)

Clothing Choice and Recipients’ Needs and Preferences

The findings indicate that clothing choices are closely linked to recipients’ specific needs and personal preferences. The most frequently purchased clothing items were pants, followed by undergarments, shirts, hats, socks, and shoes. Comfort was rated as the most important selection criterion when shopping for elderly recipients. Due to physical impairments, some elderly individuals require specific styles and materials to provide comfort to accommodate their specific physiological needs. For example, most recipients preferred pants and skirts with elasticized waistbands, a generous fit, and cotton or cotton blends for better absorbency and breathability. In addition to comfort, it was evident that ease of putting on and taking off clothing was important.

> Ease of putting it on and off, that's a biggie. It has to be big enough to accommodate arm lifting, but style doesn't care. It's always the same colours that she likes. Sweatpants have to be open at the bottom; they can't be tapered at the bottom with elastic cuffs—she doesn't like that. (P3)

Conclusion & Implications

However, the findings indicated that many market offerings lacked variety to meet the needs of elderly individuals. Many clothing styles were not designed for the people with specific needs, and adaptive clothing was often very expensive. Finding appropriate products for the elderly has been a challenge for many caregivers. Frustration and disappointment during search process can negatively impact their shopping experience. Price was not a crucial factor because most recipients have a sufficient pension to cover their purchases. They were more concerned with the “value for money” rather than the actual cost. In the retail environment, ease of findings items and convenience are highly valued. Key factors contributing to time savings include sales personnel, signage, and parking availability. In addition, readable labels and tags were important, as some participants found the text too small, and difficult to read.

Research Limitations and Outlook

The current study focused on caregivers’ shopping experience. Although some useful information about the recipients was obtained through caregivers’ responses, collecting first-hand data for care recipients would be beneficial. However, challenges in recruiting participants may still arise, as some seniors may have dementia, such as Parkinson’s disease or Alzheimer’s disease. Moreover, future studies could benefit from including diverse ethnic groups and conducting comparative research on the emotional well-being and relationships of formal caregivers and informal caregivers with elderly recipients. Additionally, cross-cultural studies could provide valuable insights into the growing global challenges of an aging population and caregiving.

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Store Healthfulness: assessing the perceptions of the shoppers in the retailing environment

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Retailing, store healthfulness, perceptions, retail mix, satisfaction, loyalty

Introduction

It has been well established by the extant literature and research that whether food decisions will be healthy or unhealthy depends on environmental cues available in a situation (Hofmann et al., 2008; Salmon et al., 2014). Previous studies have identified multiple dimensions of the food environment. Glanz et al. (2005) developed a model that categorizes food environments into four types: community Nutrition Environment (the number, type, and location of food stores in a given area); consumer Nutrition Environment (the in-store factors affecting food choice, such as availability, price, quality, and marketing); organizational Nutrition Environment (the food options available in schools, workplaces, and other institutions) and information Environment (media and advertising that influence dietary choices). Most food environment research has focused on the community nutrition environment (e.g., measuring store locations and access) rather than the consumer nutrition environment (e.g., in-store availability, pricing, and placement of food items). However, since retail stores are the primary location for food purchases, understanding the in-store factors that shape purchasing behavior is critical. In fact, the retail store environment, as the place where most food and drink choices and purchases are made, is regarded as a crucial battleground in trying to change and influence behaviors. Retailers serve as gatekeepers between producers and consumers. In this role, they can promote healthy choices by facilitating changes in consumption patterns that address physical and psychological concerns related to health and wellbeing. Because of their market position, large-scale and high-volume consumer interactions, food retailers are appropriate places to influence consumers to buy and then consume “better” food products (Bartels et al., 2015). Healthier store environments can encourage better dietary choices by offering high-quality, affordable, and well-positioned healthy foods. This means that, if managed properly, in store marketing levers could facilitate healthier food purchasing (Foster et al., 2014). The healthiness of the store environment has been measure through the Nutrition Environment Measures Survey in Stores (NEMS-S) was developed to assess the availability, pricing, and quality of healthy food options in retail stores. The study aimed to create a valid and reliable tool to measure the healthfulness of retailing environments and to fill the gap according to which most tools focus on just one or two factors, typically availability and price among the marketing mix, while fewer consider variety, quality, in-store promotions and communication, and product placement. Moreover, it has been demonstrated that there is a variability in the healthfulness of the store environment. Specifically, premium supermarkets tend to offer high-quality healthy foods; discount supermarkets often have fewer healthier choices and promote less healthy foods more aggressively; small grocery stores, world stores (specialty stores selling ethnic foods), and petrol station stores tend to have poorer food environments, but there is significant variation within these categories. The tool measures the activities and strategies developed by the retailers, not the perceptions of the shoppers, adopting the point of view of the company. In literature perceptions are linked to the concept of image, and specifically corporate image, which is typically conceptualized as the overall impression that an organization makes on its various stakeholders (Beristain and Zorrilla, 2011). This image can therefore be considered as the organization’s “perceived identity”, in contrast with corporate identity. In literature, there is a certain convergence around the idea that corporate identity is a set of symbolic representations and signals “...with which the public can recognize the company and distinguish it from others and which can be used to represent or symbolize the company” (Shee and Abratt, 1989). Melewar and Karaosmanoglu (2006) delve deeper and conceptualize it as the presentation of an organization to every stakeholder. The difference between the two concepts lies in the fact that corporate identity is generally seen as belonging to the sender’s side of the message (the company), while corporate image is more commonly related to the receiving side of the communication process, the stakeholders (Thøger Christensen and Askegaard, 2001). This two concepts are linked together by the communication and the management of the retail mix.

Purpose

Given this scenario, the present work intends to analyse, starting from the variables identified by the NEMS model, how shoppers perceive the healthiness of the retail environment and which elements of the retail mix contribute the most to the development of this perception. In particular, assortment, price, promotion, layout and instore communication have been considered and the impact of the overall health image of the store, satisfaction and loyalty have been measured. Furthermore, existing research has shown that there are some differences in the healthfulness of the environment depending of the type of stores. Thus, we tested also the differences in perceptions among supermarkets and discount.

Conceptual framework

Store image is widely recognized as a crucial factor in the retail industry and is often defined in the literature as the attitude consumers develop toward a retail brand. In other words, it represents customers’ perceptions of various store attributes. Similarly, Wu, Yeh, and Hsiao (2011) described store image as consumers’ overall attitude toward a store, shaped by both its intrinsic and extrinsic characteristics. A positive store image helps retailers capture the attention of potential customers, increase their interest, enhance customer satisfaction, and encourage favourable word-of-mouth recommendations and loyalty to the store.

Store image can be developed based on various factors, including convenience, price perceptions, product quality and assortment, store atmosphere, instore communication, product arrangement and customer service. These elements play a crucial role in shaping consumers' attitudes toward a retailer's brand (Hanaysha, 2020). Lindquist (1974) identified nine elements, including merchandise, service, atmosphere, and promotion; Doyle & Fenwick (1974) focused on five elements, such as product, price, and location; Bearden (1977) highlighted factors like assortment, parking, and friendly personnel and Ghosh (1990) proposed eight elements, including merchandise, store atmosphere, customer service, and sales incentives. A positive store image can positively impact store loyalty but this effect pass through store satisfaction since it is considered a major determinant of store loyalty. Store satisfaction is defined as the consumer's subjective evaluation of whether a store meets or exceeds expectations. Rooted in the disconfirmation paradigm, satisfaction arises from comparing expectations with actual store performance.

Consumer behaviour is constantly evolving and influenced by exogenous trends and dynamics. Today, the increasing quest for health and well-being means that more and more people are willing to pay a higher price for high-quality products with an optimal nutritional composition (Ali, T. & Ali, J, 2020; Alsubhi et al., 2023). Consequently, health represents one of the main drivers of consumers' food choices as they become increasingly aware of the link between food and well-being (Saba et al., 2019). Therefore, in order to strengthen their positiong, many retailers have chosen to offer and promote healthy alternatives to meet the needs of the mid- and high-end of the market (Hoskins et al., 2024). Given the higher importance assumed by health and wellbeing we hypothesize a positive impact of health store image on store satisfaction and on store loyalty. Furthermore we assume that the management of the retail mix can positively contribute to the creation of the health image of the store. Given the differences highlighted by the literature between supermarkets and discount, we expect a different health image (greater for the supermarket) and a different impact of retail mix variables (greater in the supermarket format).

Methodology

In order to test the hypothesis presented in the literature review section, a questionnaire has been developed and administered online to a total sample of 1001 participants. For the data collection a Market Research Company has been involved to ensure the representatives of the sample in the Italian context and the generalizability of the results obtained. The questionnaire was divided into different sections. After the socio-demographic profile (51% female, 49.55 average age, 3.01 average number of members of each family, 66% employed), questions about the perceptions of different retail mix of the preferred store (discount or supermarket) were asked. A brief definition of healthy products assured the all the participant were aligned and a filter question related to whether or not respondents were buyers of health-oriented products guaranteed that the sample was familiar to the products and had the knowledge and experience to answer the questions. Then, questions about the assortment variety, price level, promotion, instore allocation and instore communication presence of healthy products, overall health image of the store, satisfaction and loyalty were asked. Participants were invited to evaluate on a 7-point Likert scale all the variable mentioned. All the scales used obtain Cronbach's alpha greater than the minimum acceptable value of .70. First of all, to test the differences in the perceptions of the health image between supermarkets and discounts we conducted the ANCOVA. Then, a structured equation model was run to test the relationships between retail mix variables, perceived healthfulness of the store, satisfaction and loyalty using SmartPLS software.

Findings

Results showed a significant difference (p.value <.001) among the perceptions of healthiness of discounts (Mdis=4.64) and supermarkets (Msuper=4.78). The extant literature posits the presence of a variability in the healthfulness of the environment considering different store types from the perspective of the company (identity). The results confirm the same pattern in the perceptions of the shoppers, underlying a coherence between store image and store identity. Furthermore, the results of the SEM analysis show a difference in the impact of retail mix on the health image of the stores. Specifically, considering the discount format, only the variety of the assortment has been found having a significant impact on the perceived healthiness of the store (p=.003). On the contrary, in the supermarket, assortment, price, promotion and instore communication were found significant (p<.001), while space management was found slightly significant (p=.065). The path coefficients show that assortment (.235) and price (.201) are the most impactful variables, followed by information provided, promotion and space allocation. In both store formats, the relations between health image and satisfaction and satisfaction and loyalty were highly significant (p<.001).

Contributions

This study makes a valuable contribution to the field of nutritional marketing, considering the perspective of the shoppers, in understanding which are the variables that contribute the most to the creation of the health store image. From a theoretical perspective, this research addresses a significant gap in the existing literature by including in the analysis not only price of the healthy products and products availability but also instore communication, products allocation and promotion. The comparison between supermarkets and discount adds also another piece of information related to the different perceptions among different store types.

Practical implications

The findings of this study underscore the main variables retailers have to manage to build up a stronger health store image in different store types. For supermarkets, it is very important not only to offer a wide variety of healthy products, but also to maintain a good value for money and offer additional information to help shoppers making more informed decisions. For discount, where the expectation are probably lower, information are not needed or required and the offer is by definition less expensive, is important to manage the assortment and variety displayed instore. The ability of the retailers to provide a healthy image can positively affect store satisfaction and store loyalty.

Research limitations and outlook

The present research has some limitations. Even if the sample can be considered representative of the Italian population, there is an imbalance in the composition of the two samples when divided by store type. In fact, those who declare a preference for discount stores represent slightly more than 10% of the total sample, thus reducing comparability with he sample that answer the questions considering a supermarket. The second limitation is linked to the difficulty of the participant to rank on a scale their perceptions, with the risk of missing nuances, perceptions, and the reasons behind behaviours and responses

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Ethical Challenges in Marketing to Children in the Digital Age

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Keywords
Children, Digital marketing, Ethics, Influencer, Regulatory Compliance.

Introduction

In today's digital age, children are not only passive consumers but active participants in an increasingly commercialised environment. With the rise of social media and digital platforms, marketing strategies have evolved to target young audiences in unprecedented ways. Recent controversies, such as the *Sephora Kids phenomenon* (Khare *et al.*, 2024; The Learning Network, 2025), have highlighted concerns about the exposure of children to advertising messages, raising questions about ethical responsibilities in digital marketing (Kavilanz, 2024). Children are now engaging with content designed for older audiences, leading to potential risks such as early consumerism, exposure to inappropriate material and psychological impacts on their development (Akinsooto, 2025). The children's market remains lucrative, with the global toy market projected to reach approximately US$133 billion in 2025 (Statista, 2025). This study examines the ethical dilemmas posed by digital marketing strategies directed at children and their influence on child development.

The research addresses the gap concerning the extent to which marketing practices contribute to the acceleration of child maturity and whether social networks amplify commercial pressures and consumption behaviours, thereby raising ethical concerns about profit-driven strategies targeting minors. By combining empirical research with theoretical reflection, the study aims to provide a deeper understanding of the power dynamics at play and to propose more responsible frameworks for engaging young audiences.

Purpose

The study aims to analyse the extent to which these practices accelerate child maturity and whether social networks amplify commercial pressures, ultimately questioning the ethical responsibilities of marketers and policymakers. Therefore, this study explores the ethical challenges in marketing directed at children in the digital era. The theoretical underpinning draws on Social Learning Theory (Bandura, 1971), consumer vulnerability, and parasocial dynamics.

Conceptual framework

The classification of childhood and adolescence varies across institutional and academic sources, shaping how marketing research conceptualizes young audiences. The United Nations Convention on the Rights of the Child defines a child as any individual aged 0 to 17 years, applying a broad, inclusive framework. In contrast, academic literature often adopts a more segmented approach based on developmental stages. Scholars such as Andrews et al. (2020) distinguish between children (2–7 years), tweens (8–12 years), and teenagers (13–18 years), reflecting differences in cognitive, emotional, and social development that influence responses to marketing strategies. Meanwhile, Sigirci, Gegez, Aytimur, and Gegez (2022) propose a unified perspective that maintains the 0–17 age range under the general term "child," emphasizing legal and ethical consistency over developmental specificity. For the purposes of this study, the term "children" will refer specifically to individuals aged 6 to 14, a range that captures both early and pre-adolescent stages, and is particularly relevant to the observed marketing dynamics and influencer engagement patterns analysed in this research. These variations in classification highlight the importance of establishing clear parameters when addressing commercial communication directed at minors.

The analysis is further contextualised by insights from current regulatory compliance frameworks, notably the European Sustainability Reporting Standards (ESRS) and the Corporate Sustainability Reporting Directive (CSRD). Although these frameworks do not exclusively focus on children's rights, they do emphasise the broader integration of human rights, including the protection of vulnerable groups, into corporate sustainability disclosures. Initiatives led by organisations like UNICEF and the Global Child Forum have urged businesses to assess and report how their operations impact children's wellbeing, especially in sectors such as media, entertainment and digital marketing. This shift signals a growing recognition of the ethical imperative to consider children not only as consumers but as rights-holders affected by corporate practices.

The research is grounded in theories such as Bandura's Social Learning Theory and builds on prior literature on consumer vulnerability and the psychological effects of marketing on children. It proposes that digital marketing—especially influencer-based—alters children's consumption behaviors and perceptions through aspirational role modelling, emotional engagement, and the blurring of entertainment and advertising.

Methodology

The methodology employed in this study is based on triangulation, combining three complementary approaches: (1) a literature review of academic research related to children and controversial digital marketing; (2) twenty semi-structured interviews conducted with ten parents and ten children, analysed using Braun and Clarke's thematic analysis to develop an interpretive framework; and (3) content analysis of ten influencers for children on TikTok and Instagram.

All participating parents provided informed consent to use interview data concerning their children's behaviours and attitudes, in full compliance with ethical standards for research involving minors. Influencers were identified using purposive sampling through targeted hashtag searches such as #kidfluencer, #miniinfluencer, #childinfluencer and #instakids. The final selection focused on profiles with consistent brand collaborations and high audience engagement (e.g. likes, comments, shares). These influencers, who often began their online presence at an early age, serve as aspirational figures for young audiences, blending entertainment and marketing in their content.

The content analysis examined the evolution of their digital presence, the nature of the promotional content shared and the types of follower interactions. Particular attention was paid to user comments, which were thematically categorised into expressions of admiration, product desire, identification with the influencer and imitation. These patterns offer insights into how marketing messages are received, internalised, and normalised by children within parasocial dynamics, where perceived familiarity fosters aspirational consumption. This multi-method approach enabled a comprehensive understanding of how digital marketing strategies influence children, setting the foundation for the analysis presented.

Findings

Marketing strategies significantly influence children's consumption preferences and behaviours, increasing early consumerism and psychological strain. Influencer content leads to internalised consumer desires (*Child 3: "You're a bit jealous, among other things.")*, and parasocial relationships encourage emulation of influencer lifestyles (*Child 6: "It makes me want to buy it even more because everyone's talking about it."*). Parents report pressure to fulfil brand-driven demands (Parent 2: "*And besides, she feels out of step with her friends because of that. She says she would like to meet more people like her. But well, it's all who are more into the concrete, into nature, into life, into the ethics of life and all that. Yes, because just superficial things like they watch on social networks they find that her friends spend a bit too much time on social networks*"). The presence of promotional content in everyday digital interactions raises ethical concerns around suitability, necessity, and long-term developmental impact: Child 10: "*What bothers me is that it's long, it adds extra stuff, it doesn't serve me, the ads, there are never things that I watch the ad and then I'll buy because it's good*.".

The study confirms that marketing strategies significantly shape children's preferences, behaviours and perceptions of consumption, often exposing them to commercial pressures that accelerate their maturation process. Due to their cognitive immaturity, children are particularly vulnerable to advertising messages and influencer marketing, often mimicking behaviours and consumption habits seen online (Ye *et al.*, 2021). This exposure fosters unrealistic expectations, leading to excessive consumer demands and dissatisfaction (Kunkel *et al*., 2004).

Moreover, peer influence within schools and social networks amplifies these effects, as sponsored content and brand promotions become the norm among children. Ethical concerns emerge as certain marketing strategies promote unsuitable, unnecessary or even harmful products, further questioning the responsibility of marketers in shaping children's consumption habits (Kennedy *et al.*, 2019).

Parents express widespread concern over these practices, highlighting the need for stricter regulations and collaborative efforts among stakeholders, including governments, schools and businesses, to restore ethical boundaries in digital marketing. The findings suggest that Bandura's Social Learning Theory can be extended to social media, as children actively replicate observed behaviours, even when they are inappropriate for their age, potentially impacting their development and wellbeing.

The content analysis of ten influencers for children revealed repeated patterns of brand promotion, often embedded within playful or lifestyle content. Comments left by young followers demonstrated admiration ("*I wish I had that!*", "*You're so cool*"), desire for the products featured and identification with the influencer as seen in "You are so pretty and so inspiring! I am the same age as you and I wish I could be just like you!" (@lifewith_harp). Additionally, comments from parents such as "*My daughter loves watching you*" highlight the family-level engagement with these influencers. This recurring discourse confirms the presence of parasocial dynamics and normalises aspirational consumption among children, particularly tweens.

Contributions

This paper provides a novel integration of interview and content analysis data to highlight how influencer marketing operates in the child digital consumer space. Theoretically, it contributes to literature on social learning in digital environments. Practically, it identifies ethical blind spots in brand strategy and calls for new standards in marketing practices aimed at vulnerable audiences.

Practical implications

This study offers actionable insights for multiple stakeholders. Companies are encouraged to adopt ethical marketing approaches that emphasise transparency, responsibility and developmental appropriateness. In particular, retailers should treat children not merely as passive audiences but as stakeholders in the design of marketing experiences. This includes implementing transparent influencer partnerships, producing age-appropriate content and incorporating parental controls or educational elements into campaigns. Such strategies can enhance marketing effectiveness while safeguarding children's wellbeing.

Governments could leverage these findings to introduce stricter regulations aimed at curbing exploitative practices targeting minors. Meanwhile, educational institutions have a key role in integrating media literacy schemes that help children critically interpret advertising messages and recognise their persuasive intent. Companies that align their messages with ethical standards and adopt participatory, inclusive approaches are more likely to build long-term trust and consumer loyalty (Farber, 2025).

Social implications

The study underscores the need to protect childhood experiences by limiting commercial pressures that lead to premature adulthood. The findings indicate that unethical marketing practices may contribute to early sexualisation, consumerism and psychological strain on young individuals. By encouraging ethical guidelines and raising parental awareness, society can foster healthier childhood development.

Furthermore, campaigns such as Dove's self-esteem initiative and Barbie's inclusive product lines demonstrate that brands aligning with social responsibility can reinforce positive identity development in children while achieving commercial success. These cases serve as benchmarks for retailers aiming to balance ethical marketing with profitability, showing that developmental sensitivity and business objectives need not be mutually exclusive. Protecting the integrity of childhood in the digital age requires a collective effort – one that places children's rights and developmental needs at the heart of marketing practice.

Research limitations and outlook

While this study is based on a qualitative sample of 20 interviews, complemented by digital content analysis, it provides rich, context-sensitive insights into children's interactions with marketing in digital environments. However, the limited sample size restricts the generalisability of the findings. Another limitation lies in the subjectivity inherent to qualitative research, especially when working with children, who may not always fully articulate their perceptions or experiences.

Future studies could integrate psychological frameworks or longitudinal methods to explore the long-term cognitive and emotional impacts of digital marketing on child development. Expanding the participant pool in future research, particularly across different socio-economic and cultural contexts, would allow for more robust conclusions. Additionally, incorporating more diverse family backgrounds would help deepen the understanding of how marketing affects children across demographic groups.

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Dynamic personal privacy norms in service retail: Learning from digital visibility and bystanders' reactance

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Purpose
This study examines personal privacy norms in livestreamed retail environments, with a particular focus on restaurants. By applying reactance theory, the research investigates the experiences of bystanders. The study aims to provide insights into how retailers can balance digital visibility with privacy concerns in service settings.
Design/methodology/approach
Using qualitative interviews with consumers (n=30) and employees (n=31), conceptualized as bystanders, this study examines how individuals navigate digital visibility by actively managing boundaries and negotiating personal privacy norms.
Findings
The findings reveal three key mechanisms shaping this process: socio-material anchoring, acting and reacting, and comprehending each representing individuals' contextual observations and responses within livestreamed environments. This study highlights the active role of bystanders in shaping what we define as "dynamic personal privacy norms."
Research limitations/implications
While this study provides valuable insights into privacy norms in retail livestreaming, it is limited by the scope of qualitative data and the specific service context of restaurants. Future research should explore quantitative approaches and cross-industry comparisons to deepen understanding.
Practical implications
Retail businesses should design context-sensitive livestreaming strategies that align with local offline consumers and employees expectations while negotiating privacy. Supporting multiple forms of bystander engagement, clarifying their roles within the ecosystem, and implementing transparent policies could foster trust and enhance the overall livestreaming experience.
Originality/value
This study contributes to the emerging discourse on digital visibility and privacy in retail by highlighting the overlooked role of bystanders in livestreaming. It offers a novel perspective on how retailers can integrate livestreaming into their operations while maintaining consumers and employees engagement.

Keywords: Livestreaming, Personal privacy norm, Digital visibility, Reactance

Research paper

Dynamic personal privacy norms in service retail: Learning from digital visibility and bystanders' reactance

The ubiquity of livestreaming in retail and hospitality environment necessitates a critical examination of personal privacy norms, a distinct facet of privacy norms that both reflects and shapes individuals' self-expectations regarding their privacy within digitally mediated environments. This study examines personal privacy norms in livestreamed retail environments, highlighting restaurants as a key sector. Grounded in reactance theory, it focuses on bystanders, offline consumers and employee within the retail space, as individuals who are neither streamers nor intended viewers yet are inadvertently included in live broadcasts (Wu et al., 2023; Windl & Mayer, 2022). Through qualitative interviews with consumers (n=30) and employees (n=31), conceptualized as bystanders, the study explores how individuals, considering digital visibility, actively regulate boundaries and negotiate personal privacy norms. The findings identify three key mechanisms through which this process unfolds: socio-material anchoring, acting and reacting, and comprehending, each reflecting individuals' situated observations and actions within livestreamed environments. The study underscores the active role of bystanders in negotiating what we call "dynamic personal privacy norms". This represents how individuals balance personal and collective interests through reactance, which is presented as an adaptive and constructive process extending beyond mere reflex opposition to privacy violations and enabling individuals to make long-term adjustments to evolving privacy self-expectations (see figure 1 and 2 for illustrations).

Livestreaming, by blurring the lines between digital and physical spaces, as well as private and public domains, enables real-time audio and video broadcasting, primarily through social media platforms (K. Lin et al., 2022; Zheng, Wu, & Liao, 2023). In China, approximately 10% of the total live-streaming audience relates to tourism retail with around 56 million users, primarily engaged with travel and destination-related content (GMA, 2023; Octoplus Media, 2021; China Tourism Academy, 2020). While livestreaming fosters engagement and growth in tourism retail and hospitality, it also raises privacy concerns within the broader realm of digital visibility. Digital visibility in livestreamed restaurant environments refers to the heightened exposure of consumers and employees, where real-time recording extends their presence beyond the immediate restaurant and dining setting. It encompasses the likelihood of being noticed visually, being heard, or gaining recognition and acknowledgment (Brantner and Stehle, 2023). Privacy concerns arise from real-time interactions that complicate privacy management for both streamers and bystanders, raising broader questions about individual privacy at a collective level.

Researchers increasingly view privacy management as shaped by the interactions of multiple stakeholders who influence privacy expectations and consider information disclosure through boundary regulation (Li et al., 2019; Marky et al., 2020; Kokolakis, 2017). Building on the recognition of privacy as a collective concern in retail and hospitality, this study considers the micro-level dynamics that shape privacy experiences, particularly through the role of bystanders. These individuals are not inherently involved in the creation or intended reception of livestreaming content; they are neither professional streamers nor target audience members. However, they remain inadvertent witnesses/actors to livestreaming activities, positioning them at the intersection of digital visibility and privacy negotiation within retail and hospitality spaces. Despite their omnipresence, bystanders have been largely overlooked in research. Recognizing their perspectives expands retail research beyond top-down regulatory decisions and privacy norms, offering insights into how privacy is experienced and negotiated at the individual level, which is key to fostering trust and gaining a competitive advantage.

Distinct from general privacy norms, personal privacy norms are defined as individuals perceived moral obligations and self-expectations to do the “right thing” regarding the appropriate management of their privacy (Westin, 1968; Su et al., 2022). These normative guidelines emerge as self-imposed rules of action, functioning both as regulating frameworks and protective mechanisms that govern when, how, and to what extent personal information is disclosed to others. This addresses a critical gap in retail service literature about privacy, informing on the ways norms are negotiated during individual experiences in real time, underscoring the need for a more context-sensitive approach that accounts for dynamic, situational, and socially embedded privacy practices within hospitality settings (Nissenbaum, 2004; 2009 McDonald & Forte, 2021; Proferes, 2022). Anchored in existing research on livestreaming in retail and hospitality and privacy literature, this study investigates bystanders’ information disclosure through the lens of psychological reactance theory (Brehm, 1966, 1972). This framework enables an exploration of how bystanders’ personal privacy norms and underlying boundary regulation are shaped by reactive situations where they are often placed involuntarily, particularly when exposed to livestreaming activities in public yet socially intimate spaces like restaurants. We aim to answer the research question: How do bystanders’ reactions to digital visibility shape privacy norms through information disclosure and boundary regulation in livestreamed retail restaurant environments?

Livestreaming in retail and hospitality amplifies visibility, exposing individuals to a broader audience (Khan et al., 2025; K. Lin et al., 2022; Zheng et al., 2023). Digital visibility signifies increased exposure, encompassing the likelihood of being noticed visually or audibly. This reshapes privacy expectations, requiring individuals to negotiate privacy through engagement, withdrawal, or adaptation while understanding the context and relying on boundary regulation. As such, in retail, especially in restaurants, individuals’ actions and reactions are directly visible, raising questions about privacy as a societal issue rather than a marketable commodity. Privacy concerns are best understood as individuals’ subjective perceptions of fairness within information disclosure. They are situational and shaped by perceived control, transparency, and risk. Research has call for a better understanding of mechanisms that support bystanders’ selective information sharing. Indeed, the spontaneous nature of livestreaming limits individuals’ ability to object or control data sharing. Aligning with Altman’s theory of privacy regulation, bystanders seek a balance between desired and actual privacy, adjusting behaviour through boundary regulation (Altman, 1975). We leverage a horizontal view of privacy that emphasizes that norms are shaped by interpersonal dynamics and social roles (Petronio, 2002).

Findings revealed that individual reactions to information disclosure are based on three key mechanisms: Socio material anchoring, acting and reacting, and comprehending. *Socio material anchoring* refers to the connectedness between individuals, collectives, and technological systems, where behaviours become observable. It captures how digital visibility emerges through human intent, digital infrastructures, and external perceptions. Initially, consumers and employees perceive restaurants as familiar shared spaces where technology should seamlessly improve the experience without compromising privacy. However, it encompasses individuals facing livestreaming as an inherent aspect, necessitating interpretation and integration. Privacy concerns reconfigure market actors’ awareness of the technologized landscape, highlighting the inevitability of livestreaming. Two sub-key dimensions emerged: materiality in service and sociality in service.

Materiality in service emphasizes that restaurant design traditionally balances information, interactions, and privacy needs. In livestreaming environments, spaces are increasingly structured around real-time technology, disrupting expectations. Responses to privacy concerns remain driven by traditional norms rather than proactive adaptation. Consumers and employees as bystanders push back against feeling of being coerced into digital visibility. Sociality in service highlights how consumers and employees navigate privacy concerns in livestreamed restaurants, especially when livestreaming violates privacy expectations. When individuals perceive violation, they reassert control through avoidance or resistance. Some view livestreaming as enhancing social interaction, while others find it disruptive. Employees also expressed ambivalence, recognizing social impact while emphasizing service standards. Digital visibility introduces tensions between traditional responsibilities and evolving service expectations.

Acting and reacting captures how individuals negotiate privacy and autonomy within evolving service dynamics. Livestreaming introduces transformations, prompting continuous adjustments to retain agency. Mutual expectations shift, making implicit norms visible. This process reflects pushing back against intrusions while adapting, negotiating situated privacy norms. It unfolds across three sub themes: immediate response, envisioning adjustments, and boundary spanning. Immediate response to livestreaming is instinctive and shaped by disrupted expectations and prior experiences. Responses vary from curiosity to discomfort, depending on perceived impact on privacy. Livestreaming is often experienced as a restriction rather than an opportunity, triggering broad reactance behaviours. Employees familiar with livestreaming often prioritize a pragmatic, service-oriented perspective, navigating its impact on service continuity and workplace expectations. Envisioning adjustments involves actively adapting to real-time recording, a deliberate negotiation of privacy given changing hospitality contexts. Individuals strategize and adopt adaptations (e.g., seating choices, advocating for designated areas). Employees focus on practical concerns like workflow disruptions and business implications. They prioritize core service functions over technological adaptations. Boundary spanning involves navigating the perceived online audience while balancing the value and disruptions of livestreaming. Individuals characterize which behaviours to emphasize or regulate, recognizing livestreaming's potential benefits. It's a hot topic where individuals express pragmatic acceptance of livestreaming as increasingly normalized. Employees reflect on their professional role, considering the positive potential of highlighting exemplary service.

Lastly, *comprehending* captures how bystanders (consumers and employees) experience and interpret interactions, integrating them into their understanding of privacy as a societal expectation. This process redefines service dynamics, prompting reconsideration of privacy, participation, and role expectations. Decisions about information disclosure balance traditional service expectations with technology-mediated possibilities. Three sub-dimensions include reverting to social convention, endorsing the transition, and facing the complexity in real-life situation. Reverting to social convention highlights misalignment between privacy expectations and the overall service shaped by livestreaming. When a disconnect is perceived, individuals act to regain control, resisting participation or adopting self-regulating behaviours. Concerns arise over the authenticity of the service environment and whether livestreaming distorts the restaurant's primary function. Employees also reflect on the fine line between sharing and being unwillingly drawn into marketing efforts, reinforcing the importance of voluntary participation. Endorsing the transition explores the gradual shift from reflex reactance to effective reactance, recognizing livestreaming as a personal and professional opportunity benefiting collectives.

Initially perceived as an invasion of privacy, some begin to reinterpret its presence as enhancing reputation and fostering learning. As impulsive reactance decreases, individuals acknowledge that livestreaming shapes new service dynamics with mutual negotiation of digital exposure, fostering agency. This can generate gratitude and encourage confident support of others during livestreaming. For employees, this translates to pride and professional validation when featured in livestreams. Facing the complexity in real-life situation highlights the situational complexity during livestreaming, shaped by fluid interactions between content creators and others. Unlike structured encounters, livestreaming introduces unpredictability, requiring real-time interpretation of social cues. This uncertainty can trigger ambivalent attitudes depending on mood, streamer behaviour, and perceived consent. Privacy concerns remain central, as livestreaming blurs public and private boundaries. Concerns also arise over the commercialization of dining experiences. While discreet recording may be interesting, disruptive behaviours are problematic. Individuals must continuously adapt rather than respond in binary terms. The study underscores the active role of bystanders in negotiating what we call “dynamic personal privacy norms”. Within the realm of digital visibility, bystanders actively adapt, contest, and redefine privacy boundaries, through a process intrinsically linked to the enactment of social roles, demonstrating how dynamic personal privacy norm negotiation extends beyond immediate resistance to contribute to sustained adaptations within digitally mediated environments. In doing so, individuals balance personal and collective interests through reactance. Reactance represents an adaptive and constructive process, extending beyond mere reflex opposition to privacy violations enabling individuals to make long-term adjustments to evolving privacy self-expectations in the realm of digital visibility.

This study makes three key theoretical contributions to retail, and hospitality research. First, it redefines privacy norms as dynamic and situational, shaped by individual agency rather than imposed regulations. It introduces the concept of “dynamic personal privacy norms”, highlighting how individuals negotiate privacy in response to evolving digital visibility in livestreamed settings. Second, it expands livestreaming research by focusing on bystanders' engagement, showing how they navigate privacy concerns through adaptive behaviours rather than passive acceptance. Third, it advances reactance theory, demonstrating that privacy resistance is not merely oppositional but constructive, fostering digital literacy and social adaptation. These findings highlight the collective negotiation of privacy in technology-driven retail environments.

Regarding managerial implications, the focus is on creating a more integrated livestreamed experience by supporting diverse forms of bystander engagement, clarifying their roles as ecosystem partners, and implementing transparent policies to foster trust. Multi-Channel Networks (MCNs) can help by enhancing content quality, educating bystanders on digital visibility, and supporting responsible livestreaming. Restaurants can also specifically leverage “employee streamers” as Key Opinion Leaders (KOLs) to boost engagement and personalize consumer interactions. This strategy can increase brand visibility and revenue. Restaurants and retailers should move beyond one-size-fits-all approaches, adopting adaptive livestreaming strategies that align with local consumer expectations.

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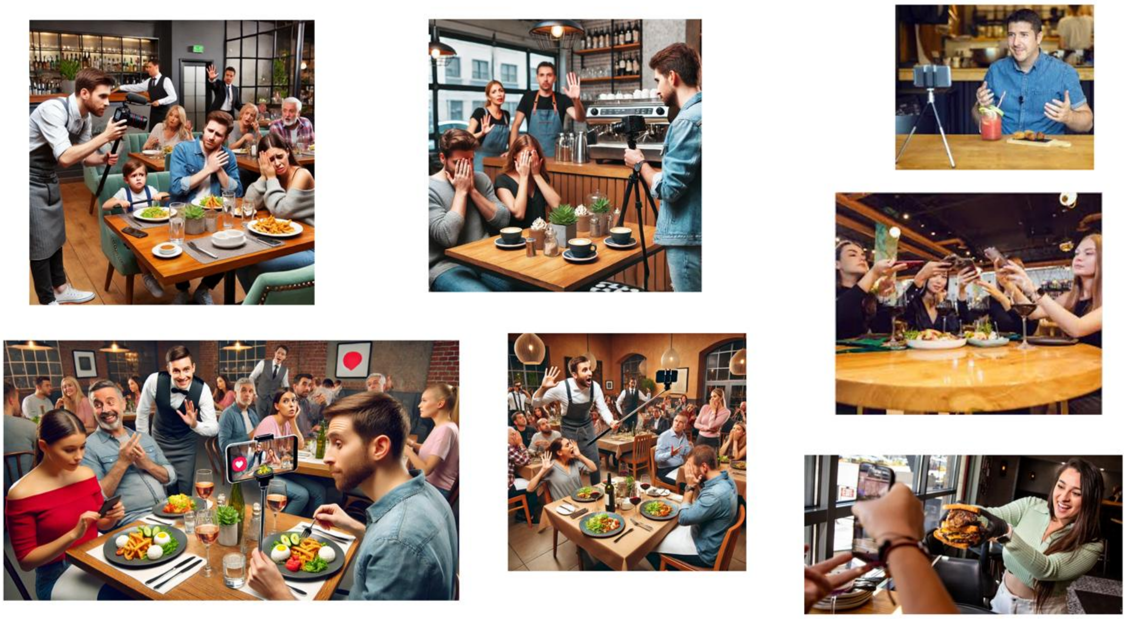

Fig. 1. Illustration of negative impact of livestreaming in in restaurants

Fig. 2. Illustration of positive impact of livestreaming in in restaurants

The more I have the impression of ‘being there’, the more I appreciate your virtual store

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Virtual reality; virtual store; sense of presence; store environment; customer satisfaction; customer future usage intentions

Introduction

The latest advances in virtual reality (VR) have led to its increasing adoption for a variety of purposes in various sectors, including education, tourism, gaming and retail. VR is characterised as a 3D virtual environment that is isolated from the physical environment and centred on the user (Rauschnabel *et al.*, 2022). In the retail sector, VR allows for the creation of virtual stores (VSs). VSs can be considered to comprise a new, fully fledged shopping channel (Bigné *et al*., 2024) that is complementary to existing channels (offline and online) in a multichannel or omnichannel logic (Zhang and Wen, 2023). Retail giants such as Amazon (The Outset) and Bloomingdale (Bloomingdale’s 150) have already integrated VSs into their existing shopping channels. With VSs, consumers may experience products and stores in new ways without leaving their homes (Grewal *et al.*, 2021; Shankar *et al.*, 2021) and can walk in a VS’s virtual aisles, observe and handle virtual products arranged on its virtual shelves and interact in real time with the store by moving their heads and limbs. As a result, they can evaluate the VS and the virtual objects presented in it.

Customers' sense of physical presence is essential to how users engage with virtual environments, such as VSs. In VR, a sense of presence refers to the psychological experience of 'being there' or the impression of being physically present in a non-physical world (Slater and Wilbur, 1997). It is influenced by several factors, including the realism of the virtual environment, the user's ability to interact with the environment and the coherence of the narrative within the VR experience (Weber *et al.*, 2021). Perceived realism, which includes visual fidelity, auditory cues and haptic feedback, plays a significant role (Barranco Merino *et al.*, 2023). The more a virtual environment mimics real-world experiences, the stronger the sense of presence (Weber *et al.*, 2021). User characteristics, such as age, personality and previous experiences with VR, also affect presence (Triberti *et al.*, 2025). Additionally, a coherent and engaging storyline can make the virtual environment more believable and enhance the user's sense of presence (Triberti *et al.*, 2025).

A sense of presence may significantly alter customers' reactions in virtual environments. However, the reactions most often studied in VR are affective (Mishra *et al*., 2024). Researchers have established that VR is generative of positive reactions, such as joy (Violante *et al*., 2019; Yang *et al*., 2024). Cognitive reactions have been less frequently studied (Xi and Hamari, 2021), and when they are investigated, product evaluations (Branca *et al*., 2023a, 2023b) and information processing processes (Siegrist *et al*., 2019; Mancuso *et al*., 2023) are mainly examined. The behavioural responses most often studied are descriptive and objective, such as time (Xu *et al*., 2021) and the amount spent (Lombart *et al*., 2020). The impact of VSs on customers' valuations of shopping experiences has been little explored.

Purpose

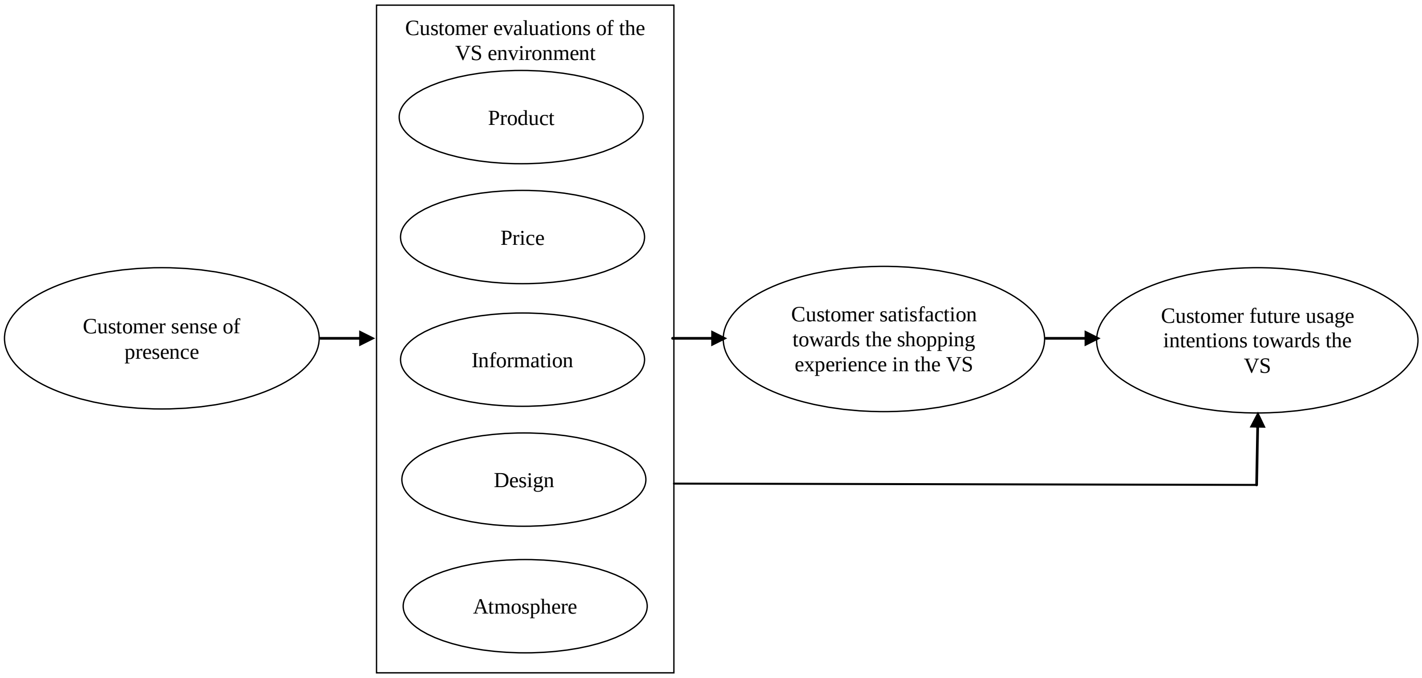
The aim of this research is to complement previous work by examining the consequences of Gen Z customers' sense of presence in a VS in terms of cognitive reactions (i.e. VS environment evaluations) and valuation of the shopping experience (i.e. satisfaction towards the shopping experience in the VS and future usage intentions towards this VS). We chose Gen Z customers because this generation is interested in technologies (Ameen *et al*., 2021) such as VR (Mishra *et al*., 2024). Moreover, Gen Z values the ability to temporarily escape daily realities (Priporas *et al.*, 2017) and to use technology in a creative way (Ameen *et al*., 2021). Lastly, Gen Z is shaping the future of retail because it is the driving force behind the increasing popularity of online grocery shopping (Brüggemann and Pauwels, 2024).

Conceptual framework

Mehrabian and Russel's (1974) stimulus–organism–response (SOR) paradigm is often mobilised in VR research (see Suh and Prophet, 2018, and Elsholz *et al.*, 2023, for syntheses). The SOR paradigm allows us to understand when consumers are confronted with a VS (stimulus), their affective and cognitive reactions (organism) and how these reactions influence negative or positive outcomes (response). This research applies the sequential logic of the SOR model. First, it establishes the impact of customers' sense of presence in a VS on their evaluations of the VS environment's dimensions (product, price, information, design and atmosphere). Then, it investigates the impacts of environmental dimensions on customers' satisfaction towards their shopping experience in the VS and on their future usage intentions towards this VS (to visit again, buy and recommend). Lastly, it determines whether satisfaction is a mediating variable in the relationship between the VS environment dimensions and future usage intentions.

Figure 1 presents the research model and hypotheses. In it, the link between customers' sense of presence and their evaluations of the VS environment dimensions is posited based on Barranco Merino *et al.*'s (2023) systematic review of the use of the sense of presence in studies on human behaviour in virtual environments. The links between VS environmental evaluations and satisfaction and between VS environmental evaluations and future usage intentions are posited based on literature reviews on offline environments (Wang *et al.*, 2025), online environments (Suraj and Joseph, 2025) and alternative retail commerce channel environments (Krasonikolakis and Vrontis, 2022). The link between satisfaction and usage intention is posited based on Desveaud *et al.*'s (2024) meta-model of customer brand loyalty and its antecedents.

Figure 1: Research model



Methodology

The experiment involved 139 Gen Z, or 'digital native', customers aged 20–25 years, of whom 62% were women. The VS in which the customers shopped (set up under Unity 3D v5.3) can be described as a Leclerc convenience store. Leclerc has been France's leading retailer in terms of sales in recent years. Various elements were integrated to make the VS as realistic as possible (Figure 2). As in a real convenience store, the VS included an entrance, which also served as an exit, a customer journey and a checkout with a cashier. Customers could shop in several food sections featuring both Leclerc's private-label products and national branded products. Prices were displayed by unit or by kilo. Point-of-sale (POS) advertising was displayed in the aisles of the store to help customers know which sections they were in. This advertising was present above the shelves, in the aisles and on the floor. Totems were set up in the store to showcase products from Leclerc's *terroir* private label.

To shop in this store, customers were equipped with a VR headset and two controllers to move around the VS and buy products. They had access, via the controller on the left, to a shopping basket in which they could place chosen products. Using the controller on the right, they could pick up, handle and inspect the products offered on the shelves. The packaging of the products had been specially designed so that customers could look at all six sides of the boxes and read all the information available.

Figure 2: The virtual store

For this photo, a basket in red was placed on the floor. To the left is the entrance mirror.

The checkout and cashier visible at the end of the stroll through the store.

Before their shopping experience in the VS, the participants signed a consent form stating that they agreed to participate in the experiment. They also read the experiment scenario, which invited them to buy products for a week or longer, if they wished, without any predefined shopping list. To reinforce the customers' impression that they were shopping for real products via a new channel, we explained that at the end of their shopping experience, they would be invited to pay for their purchases at the checkout using their bank cards and that the purchased products would be delivered to their homes. After their visit to the VS, the customers completed self-administered computer questionnaires that included items measuring the various constructs of the research model (Table 1).

Table 1: Measurement scales

Construct	Number of items	Authors	CR	AVE
Ownership (SP)	4	Roth and Latoschik (2020), Virtual Embodiment Questionnaire (VEQ)	0.893	0.678
Agency (SP)	4		0.831	0.553
Changes (SP)	4		0.877	0.642
Product (ENV)	3	Kumar *et al.* (2014) and Johnson *et al.* (2015)	0.819	0.602
Price (ENV)	3		0.898	0.747
Information (ENV)	3		0.868	0.687
Design (ENV)	6		0.866	0.525
Atmosphere (ENV)	6		0.918	0.653
Satisfaction (SAT)	4	Martin *et al.* (2015)	0.926	0.759
Future usage intentions (FUI)	3	Cheah *et al.* (2022)	0.863	0.680

Notes: SP = sense of presence, ENV = environment, SAT = satisfaction, FUI = future usage intentions, CR = composite reliability, AVE = average variance extracted

Findings

Table 2 indicates that the customers' sense of presence had a positive and significant impact on their evaluations of the following VS environment dimensions: price (path coefficient [PC] = 0.234, $p < 0.001$), design (PC = 0.226, $p < 0.001$), product (PC = 0.200, $p < 0.001$), atmosphere (PC = 0.190, $p < 0.001$) and information (PC = 0.094, $p < 0.05$). Therefore, these dimensions of the VS environment had a positive and significant impact on the customers' satisfaction with their shopping experiences in the VS. The main determinants of satisfaction were the VS atmosphere (PC = 0.246, $p < 0.001$), design (PC = 0.191, $p < 0.001$) and, to a lesser extent, the product proposed (PC = 0.103, $p < 0.05$), the prices indicated (PC = 0.084, $p < 0.05$) and the information provided (PC = 0.075, $p < 0.10$). Lastly, customers' satisfaction was confirmed as a determinant of their future usage intentions towards the VS (PC = 0.554, $p < 0.05$) and as a full mediating variable of the relationships between the evaluations of the VS environment dimensions and future usage intentions, except for price. For the price dimension of the environment, the mediation was partial, since the direct relationship between price and future usage intention was positive and significant (PC = 0.136, $p < 0.001$). The proposed research model explained 47% of customers' future usage intentions towards the VS.

Table 2: Research results

Link	PC	*t*	R^2
Sense of presence → Product	0.200	5.457***	0.140
Sense of presence → Price	0.234	6.429***	0.155
Sense of presence → Information	0.094	2.512**	0.109
Sense of presence → Design	0.226	6.187***	0.151
Sense of presence → Atmosphere	0.190	5.170***	0.136
Product → Satisfaction	0.103	2.467**	0.392
Price → Satisfaction	0.084	2.370**	
Information → Satisfaction	0.075	1.862*	
Design → Satisfaction	0.191	4.732***	
Atmosphere → Satisfaction	0.246	5.832***	
Product → Future usage intention	-0.064	n.s.	0.461
Price → Future usage intention	0.136	4.009***	
Information → Future usage intention	-0.022	n.s.	
Design → Future usage intention	0.054	n.s.	
Atmosphere → Future usage intention	0.002	n.s.	
Satisfaction → Future usage intention	0.554	15.507***	

Notes: PC = path coefficient. ***/**/* = significant coefficient. Student's *t*-test values greater than |2.575/1.96/1.645| indicate coefficients significant at the 1%/5%/10% levels, respectively. n.s. = the coefficient is not significant.

Contributions

This research indicates that VR technology enriches customers' shopping journeys by enhancing their experience at and after purchase. More specifically, it elucidates how a customers' sense of presence in a VS impacts their satisfaction towards their shopping experience and their future usage intentions towards this VS through their evaluations of the VS environment dimensions. Thus, it complements previous work on the sense of presence (Barranco Merino *et al.*, 2023) because it focuses on customers' reactions in virtual environments that have been little explored (i.e. customers' cognitive reactions and their valuation of the shopping experience). It establishes the direct impact of a sense of presence on customers' cognitive reactions (i.e. evaluations of the VS environment dimensions) and its indirect impact on their valuation of the shopping experience (i.e. satisfaction and future usage intentions).

Practical implications

This research supports the idea that retailers must add VSs to their existing shopping channels in a multichannel or omnichannel logic to reduce friction in the customer shopping journey (i.e. improve purchase convenience) and/or enhance the customer shopping journey (i.e. improve the purchase experience). However, they must be prudent when building VS environments. First, VS environments must be realistic and of high quality to stimulate users' sense of physical presence in this computer-simulated environment.

Therefore, the functional dimensions of the VS environment, such as the prices indicated, the products proposed and the information provided, and the hedonic dimensions, such as the design and atmosphere of the VS, both need to be considered and carefully worked on. Finally, even though it has been shown that VSs generate positive reactions, such as joy, rational elements, such as prices, should not be neglected, as they have a direct impact on both satisfaction and future usage intentions.

Research limitations and avenues

In this research, we studied only Gen Z consumers – the population most widely studied in VR research (Xi and Hamari, 2021). However, this population is not representative of other consumers, so we cannot generalise our results to older consumers, who may be less interested in VR technology than Gen Z (Ameen *et al.*, 2021; Mishra *et al.*, 2024). Future research should replicate the present study and generalise its results to other demographic groups beyond Gen Z, such as older generations. Future research should study how customers appreciate navigating between virtual and real environments and investigate the differences in customers' evaluations of both real and virtual store environments. In the same vein, future research should consider replicating the current research for types of shopping other than grocery shopping.

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When robots touch: Investigating human-robot interactions in retail settings

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Introduction

Service agents are a crucial factor for success in physical retail and service settings (e.g., Sands *et al.*, 2022; Breugelmans *et al.*, 2023). With evolving technology, customers' service experiences are, however, subject to change (Van Doorn *et al.*, 2017; Sands *et al.*, 2022)). Traditional human-to-human interactions might shift or have already shifted to technology-driven interactions. The emergence of service robots in physical retail exemplifies these technological advances, which have enabled robots to take on tasks that have traditionally been carried out by humans (Leo and Huh, 2020). Not only human service agents but also robot service agents can now help customers in a store (Mende *et al.*, 2019). The humanoid robot ARI welcomes customers to a service centre in Barcelona and performs and supports tasks of a manned service desk (PAL Robotics 2022). Pepper, another humanoid robot, has been used for customer service in Akzenta supermarkets in Germany (ENTRANCE Robotics 2018).

Independent of the service agent being a human being or a machine, service agents, in general, serve as sensory stimuli via verbal (sound) and non-verbal components (e.g., touch) and thus influence the customer's perception of the service interaction (Sundaram and Webster, 2000). Whether a customer is willing to engage in such an interaction, largely depends on his/her trust in the agent (e.g., Law *et al.*, 2021).

Touch represents a comprehensive and sensitive sensory component and takes a critical role in forming consumer experiences (Saleh *et al.*, 2023; Krishna *et al.*, 2024). The effect of touching customers has predominantly been studied in the context of human-human service interactions in service research(e.g., purchase in Guéguen and Jacob, 2006; tipping behavior in Luangrath *et al.*, 2020). From a robot-human service interaction perspective, touch has mostly been overlooked in research on human-robot interaction (Willemse *et al.*, 2017; Law *et al.*, 2021; Albrecht *et al.*, 2022; Hayashi *et al.*, 2022) despite its vital role for human-robot bonding and communication (Andreasson *et al.*, 2018). However, not all types of touch are suited for a human-human or robot-human interaction since some types might make consumers feel less comfortable (Law *et al.*, 2021). Thus, as a first research objective, the current study investigates how and why consumers react to touch (vs. no touch) initiated by the service agent (i.e., service employee or service robot) as to trust in the respective service agent.

Moreover, service literature shows an increasing interest in warmth and competence as driving factors for customers' evaluation of service providers. Whether in human-human interactions or robot-human interactions, warmth and competence have been seldomly studied simultaneously, although these two factors reveal an interesting area of tension. Especially when it comes to relational aspects in service interactions, warmth, on the one hand, is suggested as a dominant influencing factor for the interaction outcome. Competence, on the other hand, refers to transactional aspects of the service interaction (Güntürkün *et al.*, 2020) Previous studies on touch in human-human interactions show that perceived competence of the service agent increases when s/he touches the customer (e.g., Hubble *et al.*, 1981). In contrast, no such effect has been shown regarding warmth in human-human interactions (e.g., Pattinson, 1973). In robot-human interactions, results by Belanche *et al.* (2021) show an effect of warmth and competence on loyalty toward a service provider. Thus, as a second research objective, the current study investigates the role of warmth and competence in driving interaction comfort and trust in the service agent.

Purpose

The knowledge concerning how service robots perform in retail settings compared to humans is still much needed (Biswas, 2019; Belanche *et al.*, 2021). Due to the importance of touch in everyday social interactions like service encounters (Moore and Walker, 2019; Krishna *et al.*, 2024), it is essential for service providers and retailers to understand *how* and *why* customers react to being touched by a service robot versus a service employee, so that they know what it means for consumers to interact with either human or robot service agents. Moreover, it is important for service providers and retailers to know whether they should foster warmth and/or competence of the service agent.

Conceptual Framework

We investigate the effect of different types of touch in human-human and human-robot interaction in retail service settings. Based on uncertainty reduction theory (Berger and Calabrese 1974), we argue that social cues in the form of different touch types signal different levels of intimacy and normativity in frontline service encounters and influence well established psychological constructs of service relationship quality. We propose that situations of touch (vs. no touch) in service interactions lead to a decrease in perceived interaction comfort and thus to a reduction in perceived trust in the service agent. Furthermore, we propose that touch (vs. no touch) negatively influence the warmth and competence of a service relationship and thus negatively impact perceived comfort and subsequently perceived trust. Since a robot as a machine mimics the human capability of touch, we also propose that these effects will be stronger for robots than for humans.

Methodology

We investigated the proposed relationships in an experimental study. Participants were randomly assigned to the conditions of a lab experiment with a 2 (touch type: hug, no touch/waving) × 2 (human vs. robot frontline service employee) between-subjects design. In total, 200 female participants were exposed to either an actual humanoid robot, Pepper, or a female human service agent in a realistic shopping situation. Participants were recruited from three different locations (a shopping mall, a trade fair, and a university with working students), and the experiment took place at all three locations in a standardized lab environment. We chose only female participants because previous research indicates consistent gender differences in the perception of and reaction to touch (e.g., Russo et al., 2020).

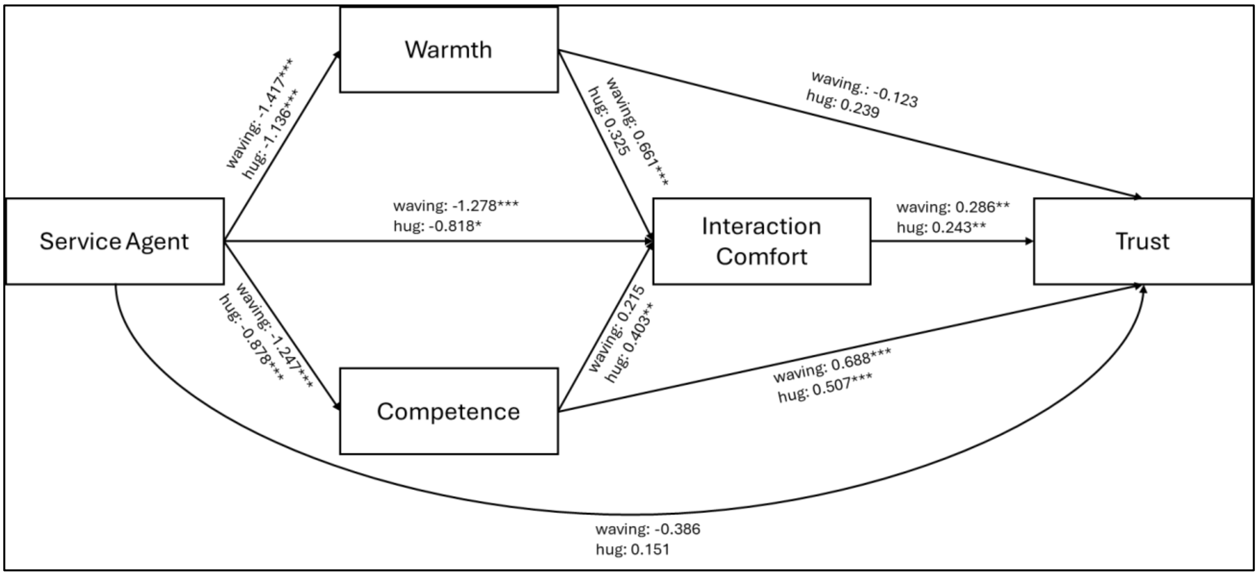
All experimental conditions followed the same structure: (1) introduction to the shopping situation, (2) interaction with a service agent, and (3) goodbye from the service agent. At the beginning of the experiment, participants received a scenario description. They were instructed to enter a store for children's clothing to buy a T-shirt for a friend’s daughter. A human or robot service agent assisted throughout the scenario and either hugged or waved at the customer at the end of the transaction as a farewell. To ensure that the behavior of the human and robot service agents remained consistent, the Wizard of Oz paradigm was applied.

We measured trust in the service agent, interaction comfort, warmth, and competence. Perceived trust in the robot was measured by averaging two items taken from van Pinxteren et al. (2019). Perceived interaction comfort was measured following Webb Luangrath et al. (2020) and van Pinxteren et al. (2019). Perceived competence and warmth of the service agent were measured with items adapted from Jha et al. (2020). Furthermore, we assessed normativity, appropriateness, and realism as manipulation checks. All assessed constructs indicated high levels of internal consistency, and all manipulation and realism checks confirmed that participants perceived the conditions as intended.

Findings

We conducted indirect effect analyses separately for the two touch types (no touch/waving vs. hug). We report the results of the no touch/waving condition first. Using Process Model 80 (Hayes, 2018), we tested whether the service agent condition (human vs. robot) leads to warmth and competence; which in turn predicts interaction comfort, which in turn predicts trust in the service agent. Results revealed competence as a partial mediator via interaction comfort in the touch condition (service agent->competence->interaction comfort->trust: b=-.086, 95% CI [-.210; -.014]; service agent->competence->trust: b=-.445, 95% CI [-.845; -.148]), while warmth acted as a full mediator in the no-touch condition (service agent->warmth->interaction comfort->trust: b=-.268, 95% CI [-.586; -.055]; service agent->warmth->trust: b=.174, 95% CI [-.554; .741]). Furthermore, we also found interaction comfort to be a mediator for trust in the no-touch (service agent->interaction comfort->trust: b=-.365, 95% CI [-.651; -.112]) and touch condition (service agent->interaction comfort->trust: b=-.198, 95% CI [-.491; -.031])

Figure 1: Indirect Effect Analysis (Process Model 80)



*Note. Experimental condition: service robot condition 1, human condition 0; unstandardized beta-coefficients are reported; * p<.05, ** p<.01, *** p<.001*

To further examine the impact of touch type and service agent type, we conducted a two-way ANOVA to test for an interaction effect between these factors on perceived interaction comfort. The analysis revealed a significant main effect of the nature of service agent ($M_{service\ robot} = 3.71$, $M_{human} = 5.73$;$F(1, 196) = 109.15$, $p<.001$) and a significant main effect of the touch type ($M_{hug} = 4.44$, $M_{waving} = 5.01$;$F(1, 196) = 8.80$, $p<.01$). The interaction between the nature of the service agent and the touch type was significant ($F(1, 196) = 5.98$, $p<.05$). Touch initiation (hug) leads to a decrease in interaction comfort towards the service agent in the human service interaction ($M_{hug,\ human} = 5.20$, $M_{waving,\ human} = 6.24$, $p<.001$). However, touch initiation (hug) does not lead to a significant change in interaction comfort towards the service agent in the service robot interaction ($M_{hug,\ robot} = 3.66$, $M_{waving,\ robot} = 3.76$, $p>.05$).

Contributions

Our results indicate that human agents outperform service robots in the investigated scenario and confirm previous research results. When the service agent touches the customer, we identify a partially mediated effect on trust through competence and interaction comfort. When the service agent does not touch, we identify a fully mediated effect on trust via warmth and interaction comfort. Additionally, we find that the service agent, regardless of touch, influences trust through interaction comfort. All identified effects are negative, meaning that when humans wave, it has a more positive effect on warmth and, subsequently, on comfort and trust than when robots wave. When humans hug, they are perceived as more competent and create greater comfort and trust than robots do in such a situation. Regardless of whether humans hug or wave, they have a more positive effect on comfort and trust than robots. Furthermore, we investigated the interaction effect between the nature of the service agent and touch type. We found that touch decreases interaction comfort for human agents but not for service robots, as participants feel almost equally comfortable with a service robot waving versus hugging them. This result suggests that social norms for humans may not be equally important for robots.

Practical Implications

From a practical point of view, this implies that while service robots are not yet able to outperform humans in the social cue of touch, they may have the opportunity to do so in the future. Humanoid robots, although designed to mimic humans, are still perceived as machines. Machines are not bound by social norms; therefore, future humanoid robot developments should leverage this effect to introduce previously impossible social interactions (such as hugging) in the marketplace.

Limitations

Regarding the limitations of our study, we note that the effects of the nature of service agents and touch types were examined within a lab experiment. Although the experiment involved a live service encounter, future research should strive for greater external validity.

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Co-creation with Consumers in Retail Design

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Keywords

Co-creation, Retail Design Process, Participation Ladder, Consumer-centricity.

Introduction

Retail design literature suggests a passive, limited role for consumers in which they are part of the analytical phase in the beginning of the retail design process (Paik and Lee, 2021, Servais et al., 2021). Among all stakeholders, retail designers pay least attention to consumers and their influence diminishes during the process (Münster and Haug, 2017). These findings contrast with the broader design and marketing literature, which portrays consumers as active and connected participants (Prahalad and Ramaswamy, 2004, Sanders and Stappers, 2008). Also, from a retail practitioner's viewpoint the minor role is difficult to explain because an understanding and empathy of consumers is seen as essential for effective retail design (Knox, 2016). Increasingly, consumers seek to interact and co-create value with firms in every part of the business system and in turn, firms view interactions with individual consumers as sources of value creation (Prahalad and Ramaswamy, 2004, Sanders and Stappers, 2008). This study examines such opportunities for co-creation with consumers in retail design. Here, co-creation with consumers in retail design is defined as a collaborative approach in which consumers actively participate alongside professional designers to achieve shared objectives in a maker role. Current literature suggests various barriers to considering high consumer involvement through co-creation: 1) retail designers have a complex role in which they deal with multiple aspects presented by many stakeholders (Münster and Haug, 2017); 2) the contact and knowledge transfer about consumer needs is indirect via retailer to designer (Münster and Haug, 2017); 3) available consumer research focuses on isolated stimuli while designers prefer observational and holistic research (Quartier et al., 2021); 4) designers are sceptical about learning from academic research on consumer behaviour (Quartier et al., 2021); 5) designers do not extract meaning from unconscious consumer preferences (Münster and Haug, 2017); and 6) numerous constraints between design variables at different abstraction levels make the retail design process complex (Haug and Münster, 2015). Taken together, these studies seem to suggest that most barriers relate to the role of the designer whereas the role of the retailer and retail design context remain largely unexplored. As retailers have applied consumer co-creation in other areas such as product design (Albors-Garrigos, 2020), the question is why co-creation seems less prevalent in retail design. A deeper understanding of both designers' and retailers' perspectives on consumer co-creation in the retail design process is necessary. This is congruent with recent calls for more systematic and institutionalised approaches to making stores more consumer-centric (Schüller, 2020, Servais, 2023).

Purpose

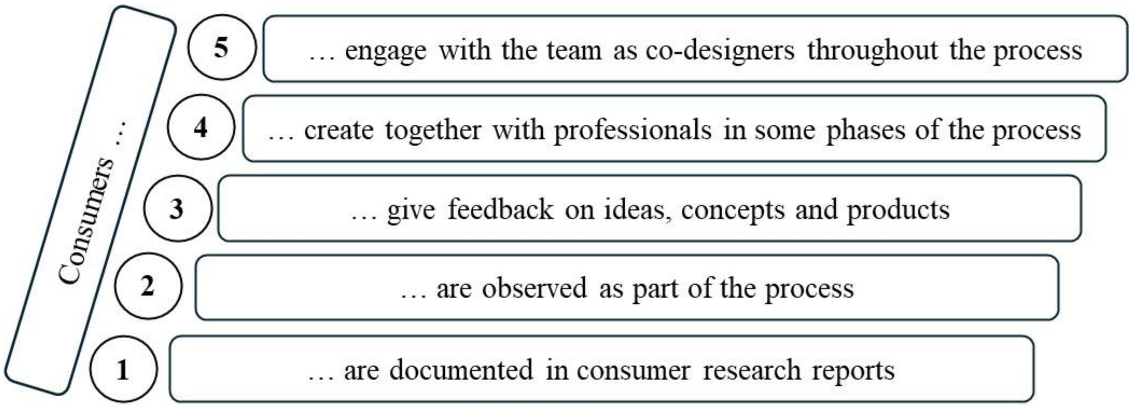
This study sets out to examine what the decision areas are for co-creation with consumers during the retail design process with the aim to design more consumer-centric stores.

Conceptual framework

The paper is mostly of inductive nature and is grounded in a social constructionist viewpoint that studies "the multiple realities constructed by different groups of people and the implications of those constructions for their lives and interactions with others" (Patton, 2014 p. 121). To facilitate interviews with practitioners, the ladder of citizen participation by Arnstein (1969) served as a foundation for conceptualizing a similar ladder of increasingly higher levels of consumer involvement in the retail design process. Levels 4 and 5 are classified as co-creation (see figure 1).

Figure 1.

5-level ladder of consumer involvement in retail design



Methodology

Taking an exploratory approach, semi-structured interviews with retailers and retail designers allowed to obtain in-depth insights from a diverse range of contexts. In total, 29 interviews with an average of 45 minutes were held. 3 purposeful sampling strategies aimed to find "important shared patterns that cut across cases and derive their significance from having emerged out of heterogeneity" (Patton, 1990 p. 172). First, maximum variation sampling was employed to gather perspectives from practitioners working in a diverse range of organisations, spanning multiple functional areas and representing a wide spectrum of retail sectors. Second, quota of 6 interviews were set for each of the three functional and organisational groups: inhouse retail designers, agency retail designers and store development managers. Finally, most interviews were generated through authors' networks as snowball sampling and online lists proved to be less effective. The retail interviewees worked in 7 different retail sectors: grocery, drug and personal care, fashion, department store, home décor, do-it-yourself, and sport. In terms of geographical scope, variation was minimised by conducting some half of the interviews in the Netherlands as one of the authors has access to the local retail network. This geographical focus was balanced by obtaining insights from 8 other countries in 3 continents: Belgium, Canada, Denmark, Portugal, South Africa, Sweden, United Kingdom, U.S.A. The interviews were transcribed after which interviews in Dutch were translated into English. Analysis was performed in NVivo 15 software. With help of reflexive thematic analysis themes were developed from codes that on the surface appear disparate, but combined reveal their implicit or latent meaning (Braun and Clarke, 2022).

Findings

The structured approach of thematic analysis identified 5 decision areas that help explain how retailers and designers apply various levels of consumer involvement in the retail design process.

The first decision area is reducing risk for current operations. This risk is reduced through a practice of continuous adaptation. This enables adjustment to changing consumer needs based on established retail expertise and experimentation without high involvement of consumers. During a retail design project there are many iterations between retailer and designer, but more importantly they treat the first store as learning ground where they correct after launch. A grocer remarked: “Every time a store is done, it becomes the new concept store”. If retailers perceive more risk and require fresh insights such as when designing experiential spaces or new retail formats, they might consider a more comprehensive exploration of customer needs and “to look at all the small details that could make the customer experience” as a DIY retailer commented.

The second area revolves around developing first-hand experience. There is widespread belief that consumers are unable to identify what they really need and want. A sports retailer remarked: “Customers walk through your store like zombies”. They are not only unaware of many things but also behave differently than they say they do. An agency designer adds: “I think it takes some design literacy to be specific about why you're choosing things”. Retailers trust their previous experiences and agency designers. A grocer said: “So I think what's stopping it [co-creation], is retailers thinking that they know best and thinking that it's as simple as looking at return per square meter”. Designers lack experience as they may be more interested in aesthetics than hearing from consumers. In conclusion, many respondents lack clarity and first-hand experience what co-creation can do for them.

The third area concerns managing process complexity. The retail design process is regarded as complex. Inviting consumers further complicates decision-making and increases the possibility of compromise rather than the consensus that retailers seek. This is further intensified by a common tendency among retailers and designers to distrust the limited number of participants involved in qualitative research. Instead, they rely on well accessible sources as store staff to inform about consumer needs. A fashion retailer said: “It's not about the design, it's about how the staff uses the design to let the customer feel more comfortable”.

A fourth area focuses on harmonising consumer expectations with financial objectives. When consumers are given influence over store design, their needs and preferences such as wider aisles occupy store space that would otherwise be allocated for merchandising assortment. The retailer emphasis on return per square meter as key performance metric makes it difficult to compare experiential space and service elements with other parts of the store. The use of space without clear return goes against the drive for standardisation and efficiency.

Final area is connecting the brand with local consumers. There is an opportunity to work with consumers on the design of their local store as explained by a UK agency designer: “These spaces need to be more localized, more specific to the consumer in that territory, in that place. Brands are not doing what they used to, which was coming up with one size fits all strategy and rolling that out across the world. We do a lot of work around trying to make things specific for the marketplace, trying to integrate their brand into that location, trying to make their arrival kind of porous with the community that it's arriving in”. Co-creation conveys to consumers and retailer employees that the retail brand is attentive to and values its consumers. Some retailers involve consumers in store design as a way to make the organization more consumer-driven.

Based on the 5 decision areas 3 retail design strategies with regard to consumer involvement can be distinguished. First, retailers follow a strategy of small, incremental adjustments. This strategy fits a scenario when the retailers are satisfied with the existing retail concept as a basis for the future. As long as the practice of continuous adaptation enables adjustment to changing consumer needs and assortment strategy generates more value than investment in store design, co-creation seems unlikely to happen. In a second scenario retailers are faced with considerably new challenges for example when they enter a new country. Co-creation in retail design process seems to prosper most when designing consumer experiences for new type of retail spaces with participation from local consumers with the aim of both strengthening the relationship between the retail brand and consumers and promoting a consumer-centric organization culture. A third strategy may unfold when retailers and designers have become comfortable with the application of co-creation in their ad-hoc projects and they embrace co-creation throughout their store development process.

Contributions

The study confirms process complexity as a barrier to involving consumers more in the retail design process, as Paik and Lee (2021) and Servais et al. (2021) found, however, this is not the only concern. The study formulates 5 areas that drive the extent to which consumers are involved in store design and help decide if consumer co-creation is a useful strategy. While prior studies have predominantly emphasized the role of the designer, this research additionally highlights aspects related to retailers and consumers. Another contribution is the 5-level ladder which measures increasing consumer involvement in the retail design process.

Practical implications

This study suggests that retailers could start building expertise with consumer co-creation when designing shopping experiences for and with local consumers. The retail format might be completely new but an existing format could also be tailored to the local market. The co-creation strategy in retail design strengthens both the relationship between retail brand and local consumers and promotes consumer-centricity in organizations.

Co-creation with consumers is not an objective in itself and it comes with an additional investment. Our ladder helps retailers and retail designers to select the level of consumer involvement that fits their retail design process best and to invest in co-creation with consumers in those opportunities that are most fruitful.

Social implications

Opening a new store presents the challenge for multi-store retailers of maintaining brand consistency and authenticity while adapting to the local situation (Khan et al., 2024). This study highlights how co-creation in the design process might help to resolve this challenge and collaborate with local communities through co-creation.

Research limitations and outlook

As one of the objectives of retailers is to make their organisations more consumer-centric, it would be interesting to explore the relationship between the level of consumer involvement and the level of consumer-centricity. A further, more quantitative study would be useful for assessing the impact of variables such as type of retail sector and inhouse versus agency designer, so that the level of consumer involvement can be aligned with the design context. Further research could validate the operationalisation of the ladder of consumer involvement, which may encourage retailers and retail designers to select the relevant level for their design process.

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Neither winners nor losers: the impact of colour of in-store communication

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Abstract

Keywords. Colours, Nutrition Shopper Marketing, Consumer Attractiveness, Healthiness Perception, In-store Marketing.

Introduction. Poor nutrition is a global problem that contributes to the prevalence of chronic diseases. The World Health Organization (WHO) emphasises the need for population-level interventions to promote healthier food choices. Retailers play a pivotal role in influencing food choices at the point of sale.

Purpose. The research aims to investigates the impact of colour in in-store communication on consumers' healthiness perception and purchasing behaviour, thus filling a gap in the existing literature that mainly focuses on packaging.

Conceptual framework. Earlier research shows that such displays can influence consumers' purchasing decisions. Colour has a direct influence on perceptions and attention, and using colour in displays can make them more visible and appealing, increasing the probability of products being noticed. Previous studies showed that blue and green packaging perceived as more sustainable and healthier. Based on the Selective Accessibility Model (SAM), the Trichromatic Theory and the three colour attributes, the study hypothesized that blue would be perceived as healthier than green (H1) and more effective in attracting consumers (H2).

Methodology. The study utilised a quasi-experimental approach, employing a controlled intervention in two supermarkets located in Northern Italy. The intervention involved the implementation of two in-store communication initiatives designed to promote the consumption of healthy breakfast products. These initiatives were characterised by the use of specific colours, with one employing the colour blue and the other utilising green. Data were collected through in-store observations and semi-structured questionnaires to 271 shoppers. The objective of in-store observations was to measure three main aspects: (1) the attractiveness of the displays, (2) interaction with the products, (3) purchase rate. They involved tracking the number of individuals passing through the aisle, those who noticed the communication, those who handled at least one of the advertised products, and finally, those who actually purchased the product. Regarding semi-structured questionnaires, 7-point Likert scale were utilised. ANOVA analysis were conducted in order to test the hypotheses.

Findings. The results revealed no significant differences in healthiness perception between blue and green communication, which led to the rejection of H1. However, in-store observations showed that blue was more effective in terms of display appeal, interaction with products and purchase rates, thus supporting H2.

Contributions. Existing literature has focused on the study related to the perceived healthiness of colour, especially in the realm of packaging. This research contributes to the underexplored field of health-related in-store marketing strategies.

Practical implications. This study highlights the practical implication that blue, while not perceived as healthier, is more effective at attracting attention and inducing purchases and may be particularly useful for communicating products traditionally considered less healthy.

Research limitations and outlook. Limitations include potential self-report bias, lack of control over real-world variables, and a non-representative sample. Future research could explore different product categories, colours, and use eye-tracking technology

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Healthy Choices on the Shelf: A Comparative Analysis Between Italian and American Consumers

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Abstract

Keywords. Nutritional Marketing, Nutri-Score, Cross-cultural Marketing, Space Management, Consumer Behaviour, Healthy Choices

Introduction. The increasing prevalence of obesity on a global scale serves to emphasise the critical role that the environment plays in the promotion of health. In this context, food retailers have become important partners in public health initiatives, utilising in-store communication channels to exert influence over consumer choices at the point of sale. The integration of space management and in-store communication has been demonstrated to effectively guide healthier purchasing behaviours.

Purpose. This study aims to assess the effectiveness of combining space management and Nutri-Score communication in improving healthy food choices. It investigates if nutritional labelling on displays enhances health perception and purchase intent, particularly in the biscuit category. The research also provides a cross-cultural comparison between Italian and American consumers to understand the impact of varying eating habits and traditions.

Conceptual Framework. Information overload has been identified as a key factor in consumer decision-making processes, particularly in the context of shelf arrangement. Despite the existence of nutrition labels, their impact can be limited. The majority of food purchases are instinctive, driven by environmental cues. The arrangement of products according to nutritional benefits, especially through the use of vertical displays, has been demonstrated to facilitate healthier choices. When considering cultural divergences, Italian consumers exhibit a heightened propensity towards health-consciousness, in contrast to their American counterparts, who, being less acquainted with such

initiatives, may well experience a sense of novelty. The present study employs the Nutri-Score system on an innovative display segmentation approach in the biscuit category. This study hypothesises that the Nutri-Score applied on the display segmentation will have three primary impacts: first, it will increase perceptions of healthiness (H1); second, it will increase purchase intention and healthy choices (H2); and third, it will have a significant impact on American consumers (H3).

Methodology. An online questionnaire employing a within-between-subjects experimental design was conducted with 210 participants (100 Italian, 110 American). Participants were presented with both conventional displays of biscuit products and those organised according to the Nutri-Score system. The selection of products was based on their Nutri-Score, and they were subsequently categorised into three colour-coded groups. The study measured perceived healthiness, purchase intention, and health consciousness.

Findings. Repeated measures ANOVA showed a significant increase in perceived healthiness with the Nutri-Score display in both countries, supporting H1, with a more pronounced increase in American consumers. Purchase intention also increased in both countries after Nutri-Score exposure, supporting H2. The number of healthy (green score) products chosen significantly increased in both countries. However, there was no significant difference in this increase between the two countries, leading to the rejection of H3. The novelty effect in the US and pre-existing health knowledge in Italy may explain these cultural variations.

Contributions. This research contributes to in-store nutrition marketing by analysing the effectiveness of Nutri-Score labelling within display space segmentation. From a theoretical perspective, this research addresses a significant gap in the existing literature by analysing the effectiveness of the Nutri-Score labelling system when applied to the segmentation of in-store display space. From a practical perspective, the results show that clear shelf segmentation, supported by shelf communication, can increase perceived product healthiness and encourage healthier purchasing decisions.

Practical Implications. The findings highlight the effectiveness of integrating visual merchandising with Nutri-Score to influence consumer food choices. This suggests that retailers should adopt shelf segmentation based on nutritional quality for an enhanced shopping experience and competitive advantage. Policymakers can use clear labelling at points of sale as a complementary tool to existing nutritional policies for reducing diet-related diseases.

Research Limitations and Outlook. Limitations include the inability of online simulations to fully replicate real shopping contexts and the limited generalizability of results beyond Italian and US consumers or other product categories. Future research should consider field testing, expanded samples, and other influencing variables.

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Privacy-Aware Personalization Practices in Retail: Exploring Best Practices

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Keywords

Personalization; Privacy; Management; Logics; Tension

Introduction

A number of technological advancements over the past few decades have created a complex internal environment for retailers with an increasing need to balance the tensions between personalization and consumer privacy. While continuous improvements in data collection and analysis have enabled retailers to improve their personalization capabilities and thereby increase sales (Guha et al., 2021; Kumar, Ramachandran & Kumar, 2021), these same capabilities have also raised significant consumer and regulatory privacy concerns, resulting in a complex and evolving legal landscape that restricts the collection and use of data (Quach et al., 2022). This has been referred to as the personalization-privacy paradox (e.g., Aguirre et al., 2016), which poses significant challenges for retailers seeking to collect, analyze, and use data to remain competitive while complying with evolving customer and regulatory expectations regarding privacy.

While there is extensive consumer-centric research on privacy and personalization, few studies explore the challenges for retailers posed by consumers' simultaneous desire for personalized experiences and privacy. Existing research primarily examines consumer attitudes towards privacy, the benefit-trade-off calculations related to personalization (Martin & Murphy, 2017; Bandara et al., 2020; Beke et al., 2022), the regulatory impact of legislation such as GDPR (Andrew & Baker, 2021; Johnson et al., 2023), and building trust in data collection technologies (Larsson & Vetter, 2021). While personalization is considered critical to retail success, with studies demonstrating its positive impact on conversion (Gerrikagoitia et al., 2015; Fisher & Raman, 2018), recent research exploring the impact of privacy on personalization and subsequent data strategies (Latvala, 2022; Long, 2022; Polonioli, 2022) often overlooks practical implementation challenges. Even less is known about how individual retail managers view and navigate this paradox between personalization and privacy goals, and the associated tensions that must be addressed and resolved through specific actions and strategies within the firm.

Purpose

This paper explores how retail managers experience and navigate the tension between privacy and personalization. It aims to understand the challenges retail managers face by identifying the underlying managerial 'logics' – or guiding frameworks of reasoning – that shape their approaches to customer data. By illuminating these distinct logics, we then use these insights to develop best practices for achieving privacy-aware personalization.

Methodology

The paper is based on three initial focus groups with eleven retail managers and four industry experts (consultants and lawyers), followed by individual interviews with 21 retail managers from twelve different retail companies. These managers held diverse roles with direct or indirect responsibilities for personalization strategies and/or privacy compliance, including positions in marketing, e-commerce, IT, data analytics, legal/compliance (such as Data Protection Officers), and general management. The focus groups allowed managers to interact and discuss a range of privacy and personalization issues, while the interviews enabled deeper and more open conversation. The focus group discussions allowed us to observe and note how managers negotiated issues and debated the tensions between privacy and personalization. The interviews were semi-structured and explored managers' current understandings, knowledge and everyday practices related to privacy and personalization. Through the focus groups and interviews, we identified patterns and regularities across the interviewed companies from which we identified and developed general insights about the phenomenon.

Findings

The preliminary findings are presented using the notion of "logics." For the purpose of this paper, we define these 'logics' as the distinct, often ingrained, sets of assumptions, guiding principles, and problem-solving approaches that managers draw upon when dealing with customer data and its implications. These are not used here in the sense of broader institutional logics (cf. Thornton et al. 2012), but rather more specific logics within a professional logic; in this case, a personalization logic and a privacy logic in retail management. The findings are presented in two main parts. First, we describe and explore these two main logics that shape how retail managers think about and act on customer data. Second, we show how these different logics can be reconciled by deliberately introducing measures into retail operations to achieve privacy-aware personalization. This includes suggested practical best practices for managers facing similar tensions between competing logics, providing guidance on how best to overcome these challenges.

The personalization logic, developed through repeated exposure to data analysis from both online and physical retail environments, serves as a framework through which managers interpret and categorize customer behavior. As such, this logic, consistently articulated by managers, serves as an important anchor for driving and executing personalized marketing and represents a value-creating mechanism in the retail environment. For instance, managers frequently described how personalization is paramount to driving sales. Personalization, in turn, involves the customer and the analytics that take place within the retail firm. Managers reported that personalization is a way to create relevance, which in turn drives loyalty and repeat purchases. But personalization also extended beyond marketing as evidenced by managers discussing its application in areas like the online checkout experience. Overall, personalization was used as a business concept to develop the offering, improve operations, and increase overall business success and customer satisfaction. The way managers invoked these positive outcomes, combined with customer expectations to receive personalized marketing and overall experience with the retailer, scaffolded the logic of personalization.

Contrasting with the drive for data utilization, a distinct 'privacy logic' also emerged strongly from our discussions with managers. This logic was manifested through the managers' expressed concerns of personal responsibility, ethical standards and regulatory pressures. Managers often recounted how this logic was particularly activated when dealing with sensitive customer data, guiding their moral decision-making. Even infrequent privacy concerns raised by customers were considered through this logic, which prepared managers to engage in deeper consideration of privacy implications. To ensure privacy compliance, retail companies often appointed groups to enforce the regulations and discuss the ambiguities of the regulations, called Data Protection Officers. However, while privacy was recognized as important, it was not acted upon in favor of short-term business and performance synergies. Instead, privacy was paved with effort, regulation, oversight, and risk management, with the ultimate financial reward coming in the future in the from of not being fined for privacy violations. As one manager noted, privacy breaches typically stem from individual actions rather than system failures, highlighting how lack of knowledge and understanding can conflict with established privacy protocols.

For retail managers, these logics appear to shape and reinforce communication and narrative practices as managers navigate between different logics for understanding privacy risks associated with data collection and analysis. These logics are particularly crucial as they guide day-to-day decision making in data collection, storage, and analysis processes. They serve as master templates for compliance and proper data handling. The incompatibility between these competing logics, as described earlier, remains an ongoing challenge for retail managers and influences how they process and act on customer data in their daily operations. The personalization logic is inherently about driving business success through improved operations. This goal is achieved by interpreting and analyzing customer behavior to develop offerings, often personalized, which presumably enhances relevance and satisfaction, thereby creating value for the business. While the logic of personalization relies on the acquisition of richer and more extensive data, the logic of privacy contrasts by emphasizing the need to restrict data usage and promote a thoughtful approach to data collection. The logic of privacy, as previously noted, is not about immediate business success. However, this doesn't preclude privacy from contributing to future potential business success; that connection has yet to be fully developed. Privacy focuses on the data itself: what is legally allowed to be collected, stored, analyzed, used, and shared. This focus ultimately leads to sound regulatory compliance, privacy-aware policies, and overall ethical and moral business conduct. Essentially, these different logics need to be explored and negotiated between the managers to mitigate the conflict and provide greater focus on value creation within the firm.

Practical implications

Our findings reveal that the tension between privacy and personalization is often rooted in the co-existence of two distinct managerial logics: a 'personalization logic' focused on business development through data utilization, and a 'privacy logic' centered on compliance and ethical data handling. Recognizing and understanding these distinct logics is the first step towards reconciliation. Thus, the constant tension they create necessitates continuous negotiation and resolution among managers to facilitate privacy-aware personalization. To handle the conflict stemming from these different logics, we propose that managers engage in best practice activities to mitigate the tension between privacy and personalization (see Figure 1 for an overview). First, it is important for managers to recognize that privacy and personalization have different starting points. However, this difference is not necessarily the core challenge. Instead, accepting that privacy is about compliance, privacy-aware policies, and ethical business practices, while personalization is about developing offerings, improving operations, and augmenting business success, is key to exploring which specific aspects are best managed by each logic. As illustrated in Figure 1, managers who acknowledge these different starting points can collaboratively and transparently explore which aspects should be managed by privacy-oriented managers versus personalization-oriented managers. To alleviate tension, a cross-functional task force can discuss which function should reinforce which practice. For instance, privacy-oriented managers should set limits on data collection, while personalization-oriented managers can focus extensively on business development. Training and education packages developed by the task force can keep other members of the retail organization informed of progress. Finally, case activities using real or fictional examples can facilitate detailed discussions within the task force about the dilemmas inherent in the privacy-personalization paradox. Only after managers representing both privacy and personalization have addressed the need to understand the different logics, and subsequently resolved cases and developed training and education for the retail organization, can they move on to exploring a firm-wide privacy-aware personalization strategy. This strategy should be based on accepting and understanding the different logics while simultaneously highlighting what is best managed by personalization-oriented managers versus privacy-oriented managers.

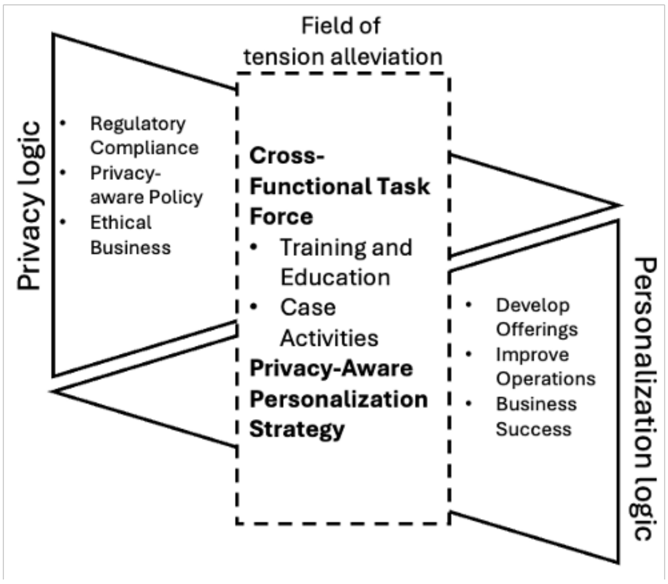

Figure 1. The figure illustrates how certain objectives are best addressed by focusing on either the privacy or personalization logic. To alleviate tension between these competing priorities, managers can establish a task force. This task force should use training, education, and case studies to explore how and where responsibilities can be effectively divided and shared. Only after this process is complete can a comprehensive privacy-aware personalization strategy be developed.

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Hypermarkets as Service-Induced One-Stop Shops – Does Cognitive Fit Lead to Convenience or Confusion?

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one-stop shop, retailing, cognitive fit, confusion, convenience

Introduction

The hypermarket format emerged in 1960s France and thrived globally as a one-stop shop offering "everything under one roof" for convenience (Carpenter, 2008). Alongside groceries, it provides a seasonally adapted non-food assortment for household and garden needs. However, this model faces growing pressure. Online marketplaces like Amazon, with vast assortments and convenient delivery, threaten hypermarkets' non-food sales (Wood & McCarthy, 2014; Bondy & Cabral, 2021; Shankar, 2019; Turner, 2022). Meanwhile, discount retailers like Aldi and Lidl, offering 15–20% lower prices, challenge hypermarkets' grocery dominance and one-stop appeal with frequently changing non-food selections (Steenkamp, 2018). To stay relevant, hypermarkets must adapt their one-stop model. Expanding into services could reinforce their value proposition. The Service-Dominant Logic framework suggests services drive competitiveness through value co-creation between businesses and customers (Vargo & Lusch, 2004; Kandampully, 2011). Research shows a strong service focus enhances customer experience, loyalty, and profitability in grocery retail (Chaudhuri & Ligas, 2009; Lusch et al., 2007; Karpen et al., 2015; Briggs, Deretti, & Kato, 2020).

However, previous research has primarily focused on customer services within traditional aspects of the customer journey (e.g., bagging at checkout) and rarely examined how introducing services outside a retailer's domain affects customer perception and behavior. Offering additional services can enhance convenience but may also cause confusion. Thus, cognitive fit appears relevant to service offerings. This study examines whether, in the context of hypermarket service expansion, cognitive fit determines whether a service is perceived as convenient or confusing and how this impacts shopping value.

Background

In consumer behavior research, categorization (or schema) theory posits that individuals organize information into categories based on prior experiences and knowledge (Sujan, 1985; Sujan & Bettman, 1989). These categories serve as heuristics that enable quick and efficient information processing when a cognitive fit with an environmental stimulus exists. In the absence of cognitive fit, stimuli require detailed analysis, increasing cognitive effort (Stayman, Alden, & Smith, 1992). Applying schema theory to service extensions in retail, prior expectations based on store format shape the perceived appropriateness or cognitive fit of a service. When a service aligns with expectations and allows heuristic use, it facilitates efficient information processing (Babin et al., 2004), reducing the effort and time needed to understand and use the service. Service convenience is co-created as customers actively engage in the consumption process and interpret outcomes subjectively (Vargo et al., 2008; Farquhar & Rowley, 2009). Consumers evaluate service convenience based on perceived control over managing, using, and converting their time and effort to achieve their shopping goals (Berry et al., 2002; Farquhar & Rowley, 2009). This convenience, derived from cognitive fit between service and retail format, aligns with the one-stop-shop principle of hypermarkets.

In contrast, mismatched or inappropriate services create cognitive misfit, leading to customer confusion (Beverland et al., 2006). Customer confusion is a temporary mental state encompassing cognitive, emotional, and behavioral dimensions, influenced by perceived appropriateness and complexity of the store environment (Garaus et al., 2015; Babin et al., 2004). Confusion burdens cognitive processes, induces negative emotions like frustration and anxiety, and reduces purchase intentions, often causing helplessness and lower shopping satisfaction (Walsh et al., 2007; Dogu & Erkip, 2000; Massara & Melara, 2010). Thus, customer confusion contradicts the one-stop-shop principle.

Building on this research, we hypothesize that the cognitive fit of newly introduced services in a hypermarket affects both perceived service convenience and customer confusion. High cognitive fit lowers cognitive overload, reduces confusion, and enhances service convenience. Furthermore, based on Garaus et al. (2015), we hypothesize that convenience positively impacts shopping value, while confusion negatively affects it. Shopping value is defined as the overall benefit consumers gain from shopping, encompassing both utilitarian (task-focused) and hedonic (experiential) outcomes (Babin et al., 1994; Stoel et al., 2004).

Methodology

To investigate the aforementioned conceptual relationships, we implemented a two-step mixed-method study design. First, we employed a qualitative exploratory approach to identify innovative services with varying levels of cognitive fit that could enhance a hypermarket’s one-stop-shop proposition. Our goal was to uncover consumer pain points and unmet needs in daily life that could be addressed through new services. We used a consumer diary approach, historically employed in marketing to document shopping patterns (Stonborough, 1942; Lewis, 1948; Shaffer, 1955). This method was chosen for its proximity to real-life consumer experiences, reduced recall bias, minimized rationalization compared to surveys, and decreased socially desirable responses (Burton & Nesbit, 2015; Paolisso & Hames, 2010; Keleher &

Verrinder, 2003; Siemieniako, 2017). Using purposive sampling, we selected 113 consumers from urban and rural areas, ensuring diversity in gender, age, and household size. Over one to two weeks, participants documented their planned and completed tasks, obligations, and challenges across six categories, developed in collaboration with hypermarket retail experts. Each participant received a pre-study briefing and concluded with a post-study interview. In total, 6,519 daily activities were recorded and categorized as follows: household activities (39.5%), shopping (11.2%), sports (9.9%), social and cultural activities (8.4%), virtual activities (19.8%), and other errands (11.2%). Each category was then analyzed in detail using content analysis

Based on the findings from Study 1, we identified two services derived from consumers' daily activities that had not been addressed by hypermarkets in our study's geographical area. One service, conceptually aligned with the hypermarket format, represented a high cognitive fit, while the other, conceptually more distant, represented a low cognitive fit. We designed a controlled laboratory experiment to test whether the cognitive distance of newly introduced services affects convenience and confusion as hypothesized. To do this, we developed two stimuli in the form of typical billboards for a specific hypermarket in a German-speaking country. Using convenience sampling, we approached customers in front of the hypermarket's flagship store within a shopping mall. As an incentive, participants had the chance to win one of three €100 vouchers for the hypermarket. Each participant was guided to a quiet environment and informed that the hypermarket was seeking customer feedback on a new service. Participants were then randomly assigned to one of two groups, resulting in 146 participants split evenly into two groups of 73. After answering basic questions about their food shopping behaviors, participants were exposed to the assigned stimulus (billboard) and responded to questions on the cognitive fit of the service (for manipulation check), perceived convenience, and confusion induced by the service. After providing demographic information, participants entered the raffle and were thanked and dismissed.

All relevant measures were based on established constructs from the literature. Service convenience was measured using a four-item scale by Benoir et al. (2017), retailer confusion with six items from Fitzgerald et al. (2019), and cognitive fit with three items from Garaus et al. (2015). All items were rated on a five-point Likert scale (1 = strongly agree, 5 = strongly disagree), with each construct demonstrating sufficient internal consistency, evidenced by a Cronbach's Alpha of 0.8 or higher.

Findings

The results of Study 1 reveal a high diversity of activities and challenges in consumers' everyday lives. Overall, no significant differences were observed between consumers in rural and urban areas. Shopping activities such as purchasing pet supplies, DIY, building materials, and gardening supplies were perceived as not only unpleasant but also especially time-consuming. Typical comments included, *"Shopping for pet supplies takes a lot of time until you have all the products you need,…"* and *"The DIY store was very busy; no consultant had time, and we only received information but could not place our order."* Household chores were nearly as unpleasant and often required even more effort. Tasks such as cleaning, recycling, and managing administrative duties were described as tedious and physically demanding. Participants noted, *"The work has to be done, but it's no fun"*, *"It is physically very tiring work"*, *"It takes up too much time"*, or *"It's a strenuous routine task that you often have to do after work."* For about half of the most disliked and time-consuming household and shopping tasks, consumers expressed a desire for support. When asked about services they do not currently use or that may not yet be available, participants primarily suggested services that could assist with household chores.

Based on this analysis, we designed two novel services not previously offered by hypermarkets in the study's geographical area. For a service with high cognitive fit, we developed a "Recycling Centre" as an on-premise service at a hypermarket. This service allows customers to conveniently dispose of typical household items, including broken electronics, old clothing, batteries, and other recyclables or non-recyclables, directly addressing the frequently reported household tasks related to waste disposal and recycling. As a low cognitive fit service, we introduced a "Craftsman Agency," a hypermarket-based service that connects customers with skilled experts for various DIY tasks and household projects. Located within the household category, this service addresses the need for assistance with home repairs and the organizational difficulties consumers face when arranging such services. We implemented both services in our experimental design to manipulate the cognitive fit of a service. As expected, participants exposed to the "Craftsman Agency" (M_{craft} = 3.24, SD_{craft} = 1.13) reported a lower cognitive fit for the service compared to participants exposed to the "Recycling Centre" ($M_{recycle}$ = 2.06, $SD_{recycle}$ = .89), $t(144) = 6.97$, $p < .001$

We tested the effect of cognitive fit on hedonic and utilitarian shopping value mediated, through convenience and confusion. We used PROCESS model 4, a parallel multiple mediation analysis that allows for the simultaneous testing of multiple mediators. When evaluating the direct effect of cognitive fit and the indirect effects of the mediators on utilitarian shopping value we found that convenience partially mediates the direct effect of cognitive fit ($R^2 = .236$). Participants who reported a higher fit of the service also indicated higher retailer convenience ($a1 = .533$, $p = .002$), which, in turn, enhanced their perceived utilitarian ($b1 = .547$, $p < .001$) shopping value, resulting in a significant increase of .292 (a1b1) in utilitarian shopping value. We found a similar effect when evaluating the direct effect of cognitive fit and the indirect effects of the mediators on hedonic shopping value ($R^2 = .424$). Participants who reported a higher fit of the service also indicated higher retailer convenience ($a1 = .533$, $p = .002$), which, in turn, enhanced their perceived hedonic ($b1 = .613$, $p < .001$) shopping value, resulting in a significant increase of .327 (a1b1) in hedonic shopping value. No significant mediation effect of confusion on either hedonic or utilitarian shopping value was detected.

Contributions, Implications, and Limitations

Our research enhances the understanding of service-induced one-stop-shopping approaches and the role of cognitive fit, perceived convenience, and retailer confusion as key determinants of the value hypermarkets provide. The obligations and challenges in consumers' daily lives, identified in a diary study, offered numerous opportunities for hypermarkets to expand beyond food and non-food items and related services. However, our results indicate that service innovations vary in their ability to create value.

According to our analysis, retailers can significantly enhance perceived hedonic and utilitarian shopping value by introducing services that align with consumers' cognitive expectations of a given retail format. This effect is partially explained by increased convenience, which saves time and effort. However, retailer confusion, proposed as an antagonist to convenience, did not mediate the effect of cognitive fit on shopping value. Theoretically, this was an unexpected finding. A possible reason could be the experimental design itself—the introduction of a single hypothetical service, though rigorously developed, may have been too limited to induce confusion, even in a complex retail format like a hypermarket.

From a practical standpoint, this is positive news, as the threshold for confusion appears high, suggesting retailers can experiment with new services without significantly confusing customers. Nonetheless, good cognitive fit and convenience remain crucial psychological constructs in strengthening the one-stop-shop proposition of hypermarkets through new service offerings.

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AI and Trust in Cosmetics Retail: Shaping Consumer Confidence in the Digital Age

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Keywords

Artificial intelligence, Retail, Consumer behaviour, Perceived Trust, SOR model

Introduction

Artificial Intelligence (AI) has significantly transformed the cosmetic retail sector, reshaping consumer experiences and market strategies (Caboni et al., 2024). The beauty industry is experiencing rapid growth, driven by evolving consumer preferences and technological advancements. In 2023, the market value of the beauty industry was estimated at $557.24 billion, with projections reaching $937.1 billion by 2030 (Grand View Research, 2023). More recent estimates suggest an even faster expansion, with the beauty and personal care market expected to reach $650.10 billion by the end of 2024 (Statista, 2024). Within this landscape, the beauty tech market is emerging as a key driver of innovation, surpassing previous forecasts. While initial projections estimated the global beauty tech market would reach $8.93 billion by 2026, the sector has already grown to $8.56 billion in 2024, highlighting the accelerating adoption of digital solutions (Statista, 2024). AI is at the forefront of this transformation, redefining consumer experiences through personalized recommendation systems, augmented reality (AR) virtual try-on tools, and predictive analytics (Wang et al., 2021; Adawiyah et al., 2024, Guha et al., 2021). In the cosmetics industry, AI-powered tools enable hyper-personalization, allowing brands to provide tailored product recommendations based on skin type, concerns, and preferences (Adawiyah et al., 2024, Fialho, 2024). Virtual try-on technologies use AI-driven AR to enhance online shopping experiences, reducing hesitation in purchasing beauty products without physical testing (Caboni et al., 2024; Kim & Forsythe, 2008). Moreover, AI-driven diagnostics, such as skin analysis applications, help consumers make informed decisions, further bridging the gap between digital and in-store shopping (Wang et al., 2024). However, despite these advancements, a crucial aspect that remains underexplored in the literature is the role of consumer trust in AI-driven retail experiences, particularly in relation to different sales channels. Among other problems, the dependence on AI technology and the need for ever-increasing amounts of customer data may in fact raise issues of customer trust (Dwivedi et al., 2019; Ameen et al., 2020). It has already been studied that consumer trust varies significantly depending on the retail context in which it is implemented (Bock et al., 2012; Lin et al., 2022). What appears to be less explored is how AI trust differs across retail channels in the cosmetics industry, which is essential for brands seeking to implement AI in a way that aligns with consumer expectations and comfort levels.

Purpose

The primary aim of this research is to examine the impact of Artificial Intelligence (AI) on consumer behavior in the cosmetic retail sector, with a particular focus on trust and the role of different retail channels in shaping consumer perceptions. While AI-driven technologies have been widely integrated into the beauty industry, enhancing personalization, streamlining product recommendations, and optimizing retail operations (Caboni & Pizzichini, 2023), there remains a significant gap in the literature regarding how consumer trust in AI varies across different retail environments. This study seeks to explore whether AI-driven personalization fosters trust in online, in-store, and omnichannel retail experiences. Prior research has extensively examined AI adoption in online channels and its effects on purchase intention (Wagner et al., 2020; Zhang et al., 2018; Caboni & Pizzichini, 2023), but less attention has been given to how the retail context itself influences trust dynamics. This study aims to fill this gap by examining whether AI-driven personalization fosters trust in different retail environments. Therefore, the research question is as follows:

RQ1: How does the adoption of AI for personalizing the shopping experience influence consumer trust in online, in-store, and omnichannel retail contexts?

Conceptual framework

The theoretical foundation of this study is grounded in the SOR (Stimulus-Organism-Response) model, which is widely used in consumer behavior research to understand how external stimuli affect individuals' internal processes and, in turn, their responses (Mehrabian & Russell, 1974). This model in consumer behavior effectively explains how various stimuli, such as website security, social presence, marketing activities and community factors, influence consumers' trust, emotions and purchase intentions in different contexts (Caboni & Pizzichini, 2023; Zhu et al., 2019; Huo et al., 2023; Jai et al., 2013). The stimulus in this context is the use of AI-driven tools, such as personalized recommendations, virtual try-ons, and skin analysis, as well as the increasing availability of beauty products. These stimuli lead to a greater interest in personalization and tailored advice among consumers. The organism refers to the internal processes of consumers as they interact with these AI tools. In particular, their trust in the technology plays a central role in shaping their perceptions of the tools' reliability and effectiveness. This trust influences how consumers evaluate their overall shopping experience, whether online, in-store, or through omnichannel platforms. The response is characterized by an increased use of AI tools, such as virtual consultations and product recommendations, which in turn affect consumer behaviors, particularly the likelihood of making a purchase or returning to the same retailer in the future. This model emphasizes how AI-driven personalization tools (stimuli) influence consumer trust (organism), which then affects their behavior in terms of AI adoption, purchase decisions, and repurchase intentions (responses).

Methodology

This study employs a quantitative research approach to examine the relationship between information channels, AI-related factors, and perceived trust. Data were collected through an online survey, administered to a preliminary sample of 111 participants, with data collection still ongoing to expand the sample size. The questionnaire included measures assessing perceived trust (PT) (Guenzi et al., 2009), perceived usefulness of AI (PU) (Davis, 1989), privacy concerns (PC) (Gerber et al., 2018), AI-related concerns (Buck et al., 2022), and purchase decision (PD) (Puto, 1987), along with demographic and behavioral variables. Statistical analyses were conducted using SPSS, leveraging both descriptive and inferential techniques (Moore, 2001). Specifically, multiple regression analyses were employed to assess the predictive power of independent variables on perceived trust and purchase decisions (Moore, 2001). Additionally, moderation and mediation analyses were performed to explore potential interaction and indirect effects within the proposed model (Moore, 2001). The study sample was composed of individuals with varying levels of experience with AI technologies, ensuring a diverse representation of perspectives.

Findings

The preliminary analysis of descriptive statistics highlights certain differences in perceived trust levels depending on the information channel used. In particular, the Web channel exhibits a tendency toward slightly higher trust levels compared to others, whereas the use of apps and social media does not show marked variations. Regression analysis further explored these dynamics, indicating that the chosen information channel does not emerge as a significant predictor of perceived trust ($p = 0.568$). Similarly, the use of AI-powered recommendation tools does not exhibit a statistically significant effect ($p = 0.151$). However, a particularly noteworthy finding concerns the role of Perceived Usefulness (PU) of AI, which proves to be a strong positive predictor of perceived trust ($\beta = 0.626$, $p < 0.001$). This suggests that the perceived utility of AI plays a key role in enhancing trust. Conversely, concerns about AI have a negative effect on perceived trust ($\beta = -0.132$, $p = 0.030$). An intriguing result pertains to privacy concerns, which demonstrate a significant positive effect on perceived trust ($\beta = 0.205$, $p = 0.003$), suggesting that greater awareness of privacy issues may translate into increased trust in AI applications. Furthermore, perceived trust emerges as a significant predictor of Purchase Decision (PD), exhibiting a negative effect ($\beta = -0.391$, $p < 0.001$). This finding indicates that higher trust in AI may lead to more deliberate and less impulsive purchasing decisions. However, the model accounts for only 15.3% of the variance in PD ($R^2 = 0.153$), implying that additional factors, not considered in this analysis, may substantially contribute to the decision-making process. The inclusion of moderators (AI proficiency and user experience) allowed for an assessment of their potential role within the model. Although the tested interactions and independent variables did not exhibit significant effects, these aspects may influence trust in more complex ways, warranting further investigation. Finally, the mediation analysis confirmed that Perceived Trust plays a crucial role in the relationship between independent variables and Purchase Decision. Specifically, perceived trust has a significant negative effect on purchasing decisions ($B = -0.500$, $p < 0.001$), supporting the hypothesis that higher levels of trust in AI lead consumers to engage in more reflective and deliberate decision-making. In summary, the findings indicate that Perceived Usefulness of AI is the primary predictor of perceived trust, whereas concerns about AI tend to diminish it. Perceived trust, in turn, is associated with a more conscious and deliberate purchasing behavior.

Contributions

This study contributes to both theory and practice by providing empirical insights into the role of information channels and AI-related factors in shaping perceived trust and purchase decisions. Theoretically, it extends existing literature by examining how channels and concerns about AI influence trust, while also exploring the moderating role of user experience and skills on the use of AI tools. By integrating the Stimulus-Organism-Response (SOR) model, the study offers a comprehensive framework for understanding how external stimuli, such as information channels and AI-related factors, affect consumers' internal states (organism), including emotions and perceptions, which in turn influence their behavioral responses, notably purchase decisions. The study's findings refine our understanding of trust formation in AI-driven decision-making processes, particularly in the context of consumer behavior. By applying the SOR model, it elucidates the pathways through which external stimuli (e.g., AI-related information) lead to internal responses (e.g., trust levels), thereby influencing consumer behavior in a new way defining how potential different level of AI awareness could impact purchase behaviour leading to more conscientious consumers' behaviours and posing questions also in terms of how the present conceptual theory is valid or if an actor network approach could be more suitable to advance theory. From a practical perspective, this research offers valuable insights for businesses, policymakers, and technology developers. By identifying the factors that enhance or reduce trust in AI, the study provides actionable recommendations for designing AI-driven services that foster consumer confidence and informed decision-making.

Practical implications

The findings of this study have significant implications for businesses integrating AI technologies into their operations. Understanding that perceived usefulness is a key driver of trust suggests that companies should prioritize transparency, explainability, and user-centric design in AI systems. Moreover, since privacy concerns appear to play a counterintuitive role in trust formation, organizations must adopt robust privacy policies while effectively communicating these safeguards to consumers. For marketers and e-commerce platforms, the observed relationship between trust and purchase decision-making implies that increasing consumer confidence in AI-driven recommendations may lead to more deliberate and less impulsive buying behavior. Businesses can leverage these insights to refine their AI-driven recommendation systems, balancing persuasion with trust-building strategies.

Research limitations and outlook

While this study provides valuable insights, several limitations should be acknowledged. First, the sample size is currently limited to 111 participants, and data collection is ongoing to enhance the robustness and generalizability of the findings. Future research should aim for a larger and more diverse sample to strengthen external validity. Second, this study focuses on self-reported perceptions of trust and AI-related factors, which may be influenced by social desirability bias. Complementary research employing experimental or behavioral approaches could provide deeper insights into actual trust-based decision-making. Lastly, while this study explores the moderating effects of user experience and skills, further research could investigate additional factors, such as cultural differences, industry-specific contexts, or psychological traits, that might shape trust dynamics in AI-driven interactions. Expanding the scope of investigation will contribute to a more comprehensive understanding of how AI adoption impacts consumer behavior and decision-making processes.

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From 2D Online to 3D Immersive Virtual Retailing Space: Philosophical and Technological Perspectives

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Keywords
3D virtual retailing, 2D retailing, immersive, spatial

Introduction

This research incorporates philosophical and technological perspectives into a virtual design of spatial and dimensional retailing space. The research proposes that the new virtual retailing space is a reconstruction of social, psychological and symbolic spaces, as well as a construction of a new physical to virtual reality. Consequently, virtual retailing strategies, at the crossroad of visual science, psychology and new technologies, need to be updated to incorporate and optimize the new technological applications, which increasingly create complicated interactivity and potentially help with creating new social hierarchies and symbolism. The conceptual models visualize multi-level spatial (the perceived, the conceived and the lived) interactions between the consumer and the retailing store, artifact and other consumers and between the physical and the virtual. The experiments examine the effects of consistency, space dimension clarity and the creation of symbols on consumers' engagement with the retailing stores and their brand loyalty. The research illustrates that virtual and dimensional design in the retailing business creates new symbols of consumer and retailing power, notably reflected in information accessibility and multi-level interactions. Future research may focus on the combination of technology, efficiency, sustainability and morality as the key symbols for virtual retailing success.

Purpose

The purpose of the research is to decipher and confirm how participants perceive the three-level spaces and how such perception influences 3D preference, decreases 2D preference, and results in a willingness to purchase under 3D preference.

The retail industry, defined as "any activity or function in the passage of goods from the manufacturer or supplier to the consumer or end user" (Gielens and Roggeveen, 2023), has evolved from mom-and-pop stores (1700s–1800s) to department stores (mid-1800s to present), shopping malls (1950s to present), big-box stores (1960s to present) and e-commerce (1990s to present). Each stage of this evolution has been shaped by a combination of existing technologies and consumer characteristics, such as cash registers, credit cards and internet usage. Emerging technologies and new generations of consumers typically drive revolutionary retail changes.

In 2024, retail e-commerce sales are estimated to exceed $4.1 trillion worldwide, and this figure is expected to reach new heights in the coming years, according to Statista. The striking numbers forecast a future trend for the retail industry: Online shopping will play an increasingly important role in consumers' and retailers' lives. However, in online purchasing, consumers also have more retail options and desires than ever before—they may stay with existing online stores, opt for emerging 3D immersive stores that imitate physical stores, or choose 3D immersive stores that create unique shopping themes with consumer-centric approaches.

Facing these new realities, research on 3D virtual retailing requires a revolutionary, visionary approach. Breaking old concepts usually demands new strategies. A promising digital future invites investigation into the future of digital retailing—whether it remains a 2D online experience or transitions to immersive 3D virtual retailing.

Conceptual framework

The research reviews existing literature and conceptualizes multilevel spatial interactions—the perceived, the conceived and the lived—between consumers, retail stores, artifacts, other consumers, and the physical and virtual. Such spatial interactions produce a New Space, a virtual product of relationships and sociomaterial practices (Fayard, 2012) with a redefinition of time. The New Space may remain a 2D, function-oriented online retail environment or evolve into a 3D immersive, experience-oriented online retail environment.

As such, five hypotheses were proposed:

H1. The physical space that offers "presence" has a positive impact on the preference for 3D design.

H2. The physical space, while impacting the social and symbolic space, results in a preference for 3D design.

H3. The physical, social and symbolic spaces influence each other.

H4. A preference for 3D design negatively impacts the perception of 2D design.

H5. A preference for 3D design results in a willingness to purchase in a 3D environment.

Methodology

The research uses consumer data and survey methods to investigate consumer perception of the 3D virtual store Crate & Barrel created by Obsess. The data was collected from 46 participants in several 3D virtual labs.

In the lab experiments, participants were exposed to the regular 2D Crate & Barrel online store in the "Furniture" section. They were then asked to answer questions about their 2D design preference. The same participants were then exposed to a 3D immersive Crate & Barrel store using Meta Quest 2 wireless VR headsets. They completed a second survey afterward.

To ensure a valid comparison, the same products and sections were shown in both the 2D and 3D stores. All personal information was removed before the data was used in this research. No identifiable information was included in the dataset.

The survey was developed based on existing scales, with some new items available upon request. The scales generally include three to five items. Principal component analysis confirms six dimensions—2D preference, 3D preference, willingness to take action regarding 3D, physical space perception, social space perception, and symbolic space perception—with item loadings higher than 0.6. This model suggests that the three dimensions work in an interrelated manner.

AMOS SEM models were applied to test the relationships. The PROCESS multilevel mediation model identified three specific indirect effects and one direct effect. The influence of symbolic space on 3D preference is mediated by social space, and the influence of physical space is mediated by symbolic space.

Findings

Consumers perceive all three spaces in a 3D virtual reality-based retail store. These spaces are interrelated and have direct and mediated effects on the preference for 3D design. This preference leads to a willingness to purchase in a 3D environment and decreases preference for 2D design.

Contributions

This research is a pioneering study examining 3D virtual retailing as a brand-new space with multiple dimensions that offers physical, social and symbolic value to consumers. The representations, imaginations and personalities conceived in the physical world take on new dimensions in the virtual world, where interactivity is much higher and consumers can be more active, participative and innovative.

In this highly personalized era, consumer feedback, interaction and co-creation are emerging trends. This research provides an innovative perspective on the future of digital retailing, analyzing it through a spatial lens. The study proposes that new technologies can integrate multisensory models in the virtual world, synthesize novel views of complex scenes, and incorporate 3D virtual elements into the field of view in real time.

Consumers’ perceptions shift from 3D to 2D presentations. Specifically, 3D presentations offer a strong competitive advantage in consumer memory, feelings and emotions when they provide greater detail and multisensory experiences.

Practical implications

This research highlights significant outcomes and implications for both business practice and the future of digital retailing. The findings suggest that 3D virtual retail environments enhance consumer engagement by offering immersive, multisensory experiences that strengthen memory, emotions and purchasing intent. As a result, businesses should consider integrating

3D virtual stores to complement traditional 2D online shopping, leveraging new technologies to create interactive, consumer-centric experiences. The commercial impact is substantial, as 3D retailing has the potential to increase conversion rates, differentiate brands in a competitive market and drive higher customer satisfaction. Additionally, companies investing in 3D virtual stores may see long-term cost savings by reducing reliance on physical retail spaces while maintaining strong consumer-brand connections. This research encourages enterprises to adopt innovative spatial strategies, optimize user experiences and explore the integration of augmented and virtual reality to stay competitive in the evolving digital commerce landscape.

Social implications *(where applicable)*

This research has notable social and environmental implications, particularly in the areas of corporate social responsibility and sustainability. By promoting 3D virtual retailing, businesses can reduce their reliance on physical stores, leading to lower carbon footprints, decreased energy consumption, and less waste from store operations—all while offering experiences and social interactions that closely resemble real-life scenarios. Such shift aligns with corporate sustainability goals and supports environmentally conscious consumer behaviors. Additionally, the adoption of immersive online shopping experiences could improve accessibility for individuals with mobility challenges, enhancing their quality of life by providing a more inclusive and engaging retail experience. As 3D virtual shopping continues to evolve, businesses and policymakers must address these emerging challenges to ensure responsible and sustainable digital retail practices.

Research limitations and outlook

The sample size is limited. As well, further studies are necessary to have an important conclusion for forecasting the future of digital retailing.

References

References are available upon request.

Appendix *(where applicable)*

Anticipating tomorrow's food service: What innovation levers for which customers?

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Article Classification

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Keywords

Restaurant; innovation; measurement scale; behavioural intentions; segmentation.

Introduction

The restaurant sector has been going through a period of profound change, amplified by the pandemic, the rise of teleworking and an inflationary economic context. These changes have led to a decline in restaurant visits and lower average consumer spending. In addition to economic challenges, the sector is facing major structural transformations that will redefine the offer and customer experiences (e.g. increasing power of home delivery platforms, rise of boxed lunches and 'homemade' food, increasing automation and digitalisation, transition to a circular economy).

The restaurant sector is therefore at a crossroads, and its survival depends, in particular, on the need to rethink practices and envisage innovative business models – that is, reinventing itself, innovating, going beyond what is currently being done and, therefore, adding new elements to appeal once again to consumers (Lee *et al.*, 2019, 2022). All these points raise a question: What will the restaurant of the future look like?

Currently, the literature does not provide an answer to this major question concerning the conceptualisation of the future of restaurants. It focuses too much on measuring what is currently being done. It concentrates, mainly and separately, on the components studied, the integration of sustainable or responsible practices (Higgins-Desbiolles *et al.*, 2019; Arun *et al.*, 2021; Madanaguli *et al.*, 2022; Abdou *et al.*, 2023; Yong *et al.*, 2024) and the integration of new technologies (Ahn and Seo, 2018; Moreno and Tejada, 2019; Gonzalez *et al.*, 2022; Ma *et al.*, 2022). Therefore, it does not propose a forward-looking approach that would identify emerging consumer expectations.

Purpose

The aim of this research is to propose a new measurement scale for identifying innovations that should be incorporated into the design of tomorrow's restaurant, making it easier to anticipate changes in the sector. This approach will make it possible to take stock of consumer preferences and analyse future behavioural intentions. Finally, it will highlight the existence of distinct consumer profiles whose different expectations call for tailored strategies.

Conceptual framework

Research on the components of restaurants has focused mainly on two areas: the integration of sustainable development, with the aim of offering more responsible establishments (green restaurants) (Higgins-Desbiolles *et al.*, 2019; Arun *et al.*, 2021; Madanaguli *et al.*, 2022; Abdou *et al.*, 2023; Yong *et al.*, 2024), and the adoption of new technologies to improve the customer experience (Ahn and Seo, 2018; Moreno and Tejada, 2019; Gonzalez *et al.*, 2022; Ma *et al.*, 2022).

Methodology

Following the procedure recommended by Churchill (1979), this study developed and validated a scale for measuring the restaurant of the future. The methodological process involved defining the concept**,** generating and purifying the items and conducting empirical validation using a representative sample of 1616 consumers in the Canadian province of Quebec. Exploratory and confirmatory factor analyses were carried out to validate the structure of the scale and highlight the main dimensions of the concept.

Findings

The developed measurement scale comprises nine dimensions and 43 items, enabling the drivers of innovation for the restaurant of the future to be identified (Table 1). It also predicts consumers' future behavioural intentions (to favour the restaurant over competitors, to frequent it and to recommend it) and reveals the existence of six distinct customer profiles (the traditionalists (n = 423, 26.18%), the rupturists (n = 181, 11.20%), the eco-citizens (n = 328, 20.30%), the omnichannel customers (n = 213, 13.18%), the enthusiasts (n = 213; 13.18%), and the indifferent (n = 258; 15.96%)), each with specific expectations in terms of technology, sustainability and customer experience.

Table 1: Reliability and validity indices

Construct	Cronbach's alpha	CR	AVE
Offering a responsible menu and traceability	0.876	0.903	0.538
Integrating food innovations	0.711	0.822	0.538
Reducing environmental impact	0.810	0.876	0.640
Integrating circular practices	0.939	0.949	0.700
Diversifying distribution channels	0.741	0.837	0.562
Offering derivative products	0.793	0.879	0.708
Digitalising the customer journey	0.817	0.879	0.646
Integrating augmented customers	0.834	0.889	0.667
Integrating machines into the customer journey	0.821	0.882	0.652

Notes: CR = composite reliability. AVE = average variance extracted.

Contributions

This research complements previous work focusing mainly on the integration of sustainable and responsible practices (Higgins-Desbiolles *et al.*, 2019; Arun *et al.*, 2021; Madanaguli *et al.*, 2022; Abdou *et al.*, 2023; Yong *et al.*, 2024) and the adoption of new technologies (Ahn and Seo, 2018; Moreno and Tejada, 2019; Gonzalez *et al.*, 2022; Ma *et al.*, 2022). Indeed, this research proposes a finer structuring of these two components by identifying the following three distinct levels:

- Major developments in sustainability – confirming the importance of eco-responsible practices and incorporating new trends in the circular economy, such as zero-waste restaurants and the optimisation of short circuits (Renfors and Wendt, 2024).
- Technological transformations – extending current approaches by identifying the impact of robot cooks and waiters, biometric payments and artificial intelligence on restaurant management (Ma *et al.*, 2023).
- Evolution of the consumption model – demonstrating that the restaurant of the future must go beyond the concept of a place of consumption to become a hybrid space that integrates a cross-channel logic, whereby customers alternate between eating in, click & collect and subscribing to food services (Baba *et al.*, 2023)—one of the major contributions of this study.

By emphasising that visiting a restaurant is a multidimensional experience (Andersson and Mossberg, 2004), this research puts forward an evolving and forward-looking vision of the restaurant of the future that is not limited to material aspects but also encompasses the immersive experience of consumers.

Practical implications

This research is a strategic tool for restaurant professionals, providing them with a detailed map of what customers expect from the restaurant of the future. The following three main recommendations emerged from this study:

- Prioritising technology and sustainability investments: Restaurateurs can use this scale to guide their innovation decisions based on the specific expectations of their customers. For example, automating ordering via digital kiosks and adopting AI-personalised interactive menus are key levers for increasing efficiency and customer satisfaction.
- Segmenting and adapting the offering: Using the six identified consumer profiles with different expectations, restaurateurs can adapt their offerings to target segments, whether in terms of food (organic products, personalised dishes), distribution channels (self-delivery, click & collect) or technological and ecological practices.
- Enhancing the customer experience: The introduction of immersive dining experiences, whereby technology is used to enhance the sensory experience (e.g. augmented reality for the presentation of dishes, open-space cooking with robot cooks), can be a key competitive advantage in an increasingly competitive sector.

Research limitations and avenues

There are limitations to this research that open up new avenues for future research. First, the scale developed could be generalised to other countries, such as France, thereby establishing its ecological validity. Similarly, its nomological validity could be established and consequences other than future behavioural intentions incorporated. Finally, this research postulates that the construct studied, the future restaurant, is an abstract attribute of the reflexive type. Following this logic, future research could envisage the integration of other dimensions, albeit more traditional ones, such as the style/ambiance of the restaurant, the prices, other consumers frequenting the establishment or the contact staff (Slivar, 2022), albeit, once again, with a prospective vision, to distinguish it from previous work.

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Investigating Cognitive Reactions in Retail Environments: A Pilot Study Using the Thinking Aloud Protocol

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Keywords

Consumer behavior, Thinking aloud, Shelf layout, Decision-making, Cognitive reactions

Introduction

Understanding consumer behaviour in retail settings is critical for optimizing store layout and product placement. Traditional studies often rely on sales metrics (Drèze et al., 1994; Young et al., 2020; Van Herpen et al., 2012; Bezawada & Pauwels, 2013), overlooking the cognitive and emotional processes that underlie purchasing decisions. Cognitive and emotional processes are often measured or investigated afterward, but the literature shows that relying on post-experience reports is not always the best approach (Sato & Kawahara, 2011; Robinson & Clore, 2002; Varey & Kahneman, 1992; Ready et al., 2007). With our study, we aim to fill this gap by understanding and gaining insights in real-time as the shopping experience and decisions occur. This pilot study is part of a larger research project, INSTORELAB, which explores consumer reactions using multiple methodologies, including physiological responses (electrodermal activity) and 3D movement tracking. While emotions often operate at a non-conscious level, they can be assessed through self-reported emotion scales or facial expression analysis. Physiological measures, such as electrodermal activity (EDA), capture implicit arousal responses but do not provide information about specific emotions or their valence. INSTORELAB incorporates 3D motion sensors to track both macro and micro behaviors, from approaching a shelf and interacting with products to head movements indicating attention shifts. In the broader project, these physiological and behavioral signals are matched with specific moments of verbalization to gain a more comprehensive understanding of consumer decision-making.

Purpose

This research aims to analyze consumers cognitive reactions to modifications on or at a particular shelf. By capturing real-time verbalized thoughts, the study provides deeper insights into decision-making processes and emotional responses. The purpose of this study was to test the Thinking Aloud Protocol in a shopping environment within a real retail store to investigate better what kind of verbalizations consumers would be able to make during their shopping experience following important decision-making at the point of sale. The goal is to develop a method that allows for the measurement of emotional, cognitive, and behavioral reactions at the shelf when making small or significant changes to the shelf setting. This approach aims to support manufacturers, retailers, and regulators in their policy choices, providing actionable insights into consumer decision-making processes.

Methodology

The study was conducted in a physical store of a leading grocery retailer in Denmark. Since this was a pilot study, we chose not to intervene in the store's shelf arrangements. Instead, we asked participants to perform a guided shopping task, where they were told to purchase three products from six different food categories. The sample included 48 participants, with 60.42% female (n = 29) and 39.58% male (n = 19). The largest age group was 50+ years (47.92%), followed by 35-49 years (29.17%), 25-34 years (18.75%), and 18-24 years (4.17%). Before starting the shopping task, participants were thoroughly instructed on both the shopping task and the Thinking Aloud Protocol. A warm-up session was conducted to familiarize them with the process, providing examples to help them verbalize their thoughts effectively. To collect verbalizations, a microphone was attached to the participant's clothing. For 32 participants, we introduced a facilitator in the form of a yellow rubber duck, which had attached prompts such as "How do you feel?", "What do you see?", "What are you thinking?" to encourage continuous verbalization when participants fell silent. The remaining 16 participants completed the task without a facilitator. At the end of the study, an exit survey was conducted to collect demographic information, consumer decision-making styles, food-related lifestyle, and responses to an environmental concern scale. The verbalizations were transcribed using AI software, which included a timestamp for each sentence. The transcripts were manually checked against the audio recordings for accuracy. A qualitative content analysis was then conducted based on a pre-established coding scheme, which included the following content categories: General shopping preference, Product-specific preference, Value for money, Quality, Convenience, Sustainability, Healthiness, Taste, Personal history/experience, Organic products, Product assortment, Offers, Labelling, Brands, Ingredients, Price, Packaging, Size, Shelf layout Finally, after analysing both the verbalizations and the exit survey responses, we explored possible correlations between survey scores and the frequency of verbalizations for different content categories. Additionally, we compared the frequency of verbalization between participants who had a facilitator and those who did not, to determine whether the presence of a facilitator improved the effectiveness of the Thinking Aloud Protocol or interfered with the shopping task.

Findings

Preliminary results indicate a high degree of heterogeneity in the frequency of verbalizations, as some participants produced a large number of verbalizations while others provided very few. Comparing participants with and without a facilitator, no significant differences were found. However, it appeared that participants without the facilitator tended to verbalize slightly more. Factor analysis was conducted to identify key dimensions underlying the items of the exit surveys. Afterward, correlations were explored between these factors and the frequency of specific verbalization codes. The verbalizations provided valuable insights into various decision-making processes during the shopping experience. Participants frequently expressed thoughts related to price barriers leading to non-purchase, reasons for choosing one product over another, inferences about the perceived healthiness of specific products, dissonance regarding shelf placement or product categorization, and appreciation or dissatisfaction regarding sustainability aspects, such as packaging and food waste. Additionally, participants commented on store organization and overall layout, highlighting both positive and negative aspects.

Contributions

This study highlights the innovative application of the Thinking Aloud Protocol in consumer behaviour research, particularly in the context of real-time decision-making within an actual store environment. Unlike traditional methods that rely on retrospective self-reports or strictly controlled laboratory settings, this approach minimizes experimental influence, allowing for more ecologically valid consumer insights. Furthermore, this study sets the groundwork for future research integrating arousal responses through electrodermal activity (EDA) and behavioural tracking via 3D motion sensors. This holistic approach has the potential to generate real-time, actionable insights for retailers, manufacturers, and policymakers, ultimately improving decision-making strategies in real shopping environments.

Practical Implications

Findings from this study can assist retailers in optimizing store configurations at various levels, from overall store layout and planograms to finer details such as shelf configurations, product placement, pricing strategies, and promotional effectiveness. For manufacturers, the insights can highlight which products struggle to attract consumers, helping to identify barriers and opportunities related to packaging, ingredient transparency, price perception, brand identity, and product differentiation. Lastly, for policymakers, this research offers valuable data on how consumers interact with regulated product information, such as sustainability claims, environmental impact, ingredient disclosures, and other labelling requirements, potentially shaping future regulations and guidelines.

Social Implications

Findings may support sustainability and public health initiatives by encouraging the placement of healthier or eco-friendly products in more visible areas. This project directly contributes to the priority challenge called "Increased uptake of affordable, nutritious, sustainable food products targeting NCD risks in key markets and demographics", by generating evidence that can directly be used to create a better alignment between consumers' desire to make healthier and more sustainable food choices and the choice environment in which these choices occur. By enabling changes in food choice environments that lead to healthier and more sustainable choices, the insights generated will contribute both to better health outcomes from consumers' diets and to improved environmental impact of the agri-food system (European Commission, 2021).

Research Limitations and Outlook

This study currently focuses solely on cognitive responses without yet incorporating galvanic skin response (EDA) and 3D motion sensors. However, these elements are planned for inclusion in future phases of the research to provide a more comprehensive understanding of consumer behaviour. Regarding the Thinking Aloud Protocol, participants were aware of being recorded, which could have influenced their behavior, particularly their thoughts. The task itself can be cognitively demanding, potentially affecting both the authenticity of the shopping behavior and the natural flow of thoughts being verbalized. Another limitation of this protocol is that it captures only what is consciously accessible. Although participants articulate reasons for their choices, underlying unconscious factors may still influence their decision-making. Therefore, we cannot be entirely certain that the reported reasons fully reflect the true underlying motivations driving their choices.

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Can Omnichannel Technologies Stimulate more Loyal Cross-Channel Behaviour?

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Keywords
Channel integration, loyalty, omnichannel technologies, showrooming, webrooming

Introduction

Practical relevance

The concept of omnichannel retailing requires an integration of channels to provide a seamless shopping experience to customers (Verhoef et al., 2015). Retailers can offer various technologies or features making channel switching more easy and more convenient (Ortlinghaus et al., 2019). For example, while being instore, consumers can use shopping apps, QR codes or information terminals to switch easily to the online channel of the retailer (store to web technologies - STW). Consumers in the online channel can further use store availability checks, click and collect or check and reserve to switch to the physical store channel (web to store technologies - WTS). Using multiple integrated channels of a retailer is associated with various favourable retailer outcomes, such as customer satisfaction, spending, profitability or loyalty (Frasquet and Miquel, 2017; Kumar et al., 2018; Neslin, 2022; Zhang et al., 2018). Hence, it is important to know for retailers, whether the mentioned technologies stimulate cross-channel behaviour. Moreover, as the technologies aim to keep customers in the retailers' own channels during channel switching (Frasquet and Ieva, 2024), it is also of interest if the technologies can stimulate loyal and reduce competitive cross-channel behaviour, such as showrooming (offline search and online purchase) or webrooming (online search and offline purchase).

Theoretical relevance

Previous literature has analysed the acceptance of various cross-channel technologies and how such technologies influence retailer outcomes (e.g., Ortlinghaus et al., 2019; Ortlinghaus and Zielke, 2019). Another stream of research has analysed antecedents of showrooming and webrooming behaviour (e.g., Gensler et al., 2017). However, less research has linked both streams and analysed which role these cross-channel technologies play in stimulating loyal and potentially reducing competitive showrooming and webrooming. Nevertheless, research indicates that such links may exist. For example, Gensler et al. (2017) find that unavailability of sales personnel stimulates competitive showrooming and conclude that, while waiting for service, customers search online for product information where they find the product at lower prices. In such cases, STW technologies could keep customers in the retailers' own channels and thus turn potential competitive into loyal showrooming. Further, Frasquet and Ieva (2024) argue that digital devices in the store or QR codes can persuade customers to buy from the retailers' online channels. Hence, there is a relevant literature gap linking omnichannel technologies with loyal versus competitive cross-channel behaviour.

Purpose

Addressing the aforementioned research gap, this study analyses (1) how perceived usefulness of STW technologies stimulates showrooming behaviour and (2) reduces retailer switching in showrooming situations (competitive showrooming). Furthermore, it analyses (3) how perceived usefulness of WTS technologies stimulates webrooming and (4) reduces retailer switching in webrooming situations (competitive webrooming).

Conceptual framework

Our conceptual framework builds on research streams related to omnichannel technologies and cross-channel behaviour. Regarding technologies, the technology acceptance model (Davis, 1989) indicates that the perceived usefulness of a technology stimulates its usage intentions and usage. In our case, we link perceived usefulness of technologies with behaviour that is related to their usage. Hence, we argue that the more useful customers perceive these technologies, the more they engage in cross-channel behaviour. As STW technologies support customers to switch from the offline to the online channel, we assume that their perceived usefulness stimulates showrooming. Similarly, as WTS technologies support customers who search online and visit physical stores for pick-up and purchase, their perceived usefulness stimulates webrooming. The technologies stimulate cross-channel behaviour, as they make channel switching more convenient and reduce consumers' search costs (Alexander and Kent, 2022; Gao and Su, 2017; Grewal et al., 2020; Thaichon et al., 2024).

Cross-channel behaviour can be loyal or competitive. While previous research mostly discussed competitive showrooming or webrooming as a problem for retailers (Gensler et al., 2017), recent research also drew attention to loyal showrooming and webrooming (Frasquet and Miquel-Romero, 2021, Frasquet and Ieva, 2024). As cross-channel behaviour is not always intentional and can be triggered by factors within a retailer's control (Frasquet et al., 2023; Maggioni et al., 2020), technologies for convenient channel switching that the consumers find useful can trigger switching within the retailer's own channels and thus prevent competitive cross-channel behaviour. Furthermore, in a shopping situation in which consumers intend to buy something, they are particularly susceptible to inspiration from external stimuli (Böttger et al. 2017). As consumers can find inspiration from using multiple channels of a retailer, channel integration can stimulate loyal cross-channel behaviour (Frasquet and Ieva, 2024). Hence, if retailers offer a cross-channel technology that consumers perceive as useful for finding inspiration this stimulates more loyal showrooming and webrooming behaviour.

Based on the arguments above, we hypothesize: H1: Consumers who perceive *store to web technologies* as more useful (a) engage more in showrooming and (b) are more loyal when switching channels; H2: Consumers who perceive *web to store technologies* as more useful (a) engage more in webrooming and (b) are more loyal when switching channels.

Methodology

For testing our research model, we developed a questionnaire and collected data from 4000 European customers. The questionnaire was part of a larger research project and included questions about the extent of cross-channel behaviour (single items for showrooming and webrooming intensity), loyal versus competitive channel switching (single items for showrooming and webrooming with scale endpoints same retailer and different retailer) and perceived usefulness of various omnichannel technologies (shopping app, QR code scanner, information terminal, availability check, click and collect, check and reserve). The questionnaire further included several control variables, such as channel preferences, smart shopping orientation and retailer loyalty. Items were taken from or constructed based on previous research and rated on 7-point scales (because of space restrictions, item scales are not included here, but are available from the authors upon request). As we measured cross-channel-behaviour and loyal versus competitive channel switching with single-items, we used PLS (Smart PLS 4) for data analysis. We collected the data through a commercial online panel from representative samples of consumers in two European countries. Consumers were asked to fill the questionnaire either for electronics or apparel with random assignment.

Findings

First, we tested our framework using four separate models for the dependent variables: extent of showrooming behaviour, retailer switching while showrooming, extent of webrooming behaviour and retailer switching while webrooming. Results show that perceived usefulness of STW technologies increases showrooming (0.22, $p = 0.000$), but showroomers become more loyal and switch less the retailer (-0,10, $p = 0.000$). Furthermore, perceived usefulness of WTS technologies increases webrooming (0.19, $p = 0.000$) and webroomers become more loyal and switch less the retailer (-0.10, $p = 0.000$). Hence, the results support H1a/b and H2a/b.

Based on the results, the question arises if the increase in showrooming and webrooming goes along with more loyal and less competitive cross-channel behaviour or if technologies directly reduce retailer switching. A negative mediation effect of technology usefulness on retailer switching via increased showrooming would imply that customers complement competitive cross-channel behaviour by additional loyal cross-channel behaviour, while direct effects would imply that customers substitute competitive by loyal cross-channel behaviour. Results reveal a significant indirect effect of STW technology usefulness on retailer switching via increased showrooming (-0.03, $p = 0.000$) and a marginally significant direct effect (-0.03, $p = 0.078$). Results further reveal a significant indirect effect of WTS technology usefulness on retailer switching via increased webrooming (-0.02, $p = 0.000$) and a significant direct effect (-0.05, $p = 0.003$).

Overall, the results support our theoretical considerations and hypotheses. However, as the effects are small and all R^2 values of dependent variables are below 0.25, technology usefulness is only one among several possible influencing factors of cross-channel behaviour and loyalty. The table below summarizes the main findings.

Table: Effects of Omnichannel Technologies on Cross-Channel Behaviour and Retailer Switching versus Loyalty

	Showrooming/ webrooming intensity	SR/WR Retailer switching versus loyalty	Partial mediation on retailer switching via SR/WR intensity Indirect effect	Partial mediation on retailer switching via SR/WR intensity Direct effect
H1: STW usefulness	+	-	-	(-)
H2: WTS usefulness	+	-	-	-

+: positive effect, -: negative effect, (): marginally significant ($p < 0.10$)

Contributions

This research contributes to the literature by linking research streams of omnichannel technologies and cross-channel behaviour. It extends studies analysing antecedents of loyal versus competitive showrooming or webrooming (e.g., Frasquet and Miquel-Romero, 2021, Frasquet and Ieva, 2024) or mor generally positive effects of channel integration on customer loyalty (e.g., Frasquet and Miquel, 2017). In particular, it focuses on the role of cross-channel technologies as antecedents of loyal versus competitive cross-channel behaviour. As the technologies integrate channels, our study therefore contributes to the research stream on channel integration (Neslin, 2022).

The results further contribute to the literature by demonstrating that customers who perceive STW and WTS technologies as useful show stronger cross-channel behaviour, but this behaviour becomes more loyal and less competitive. The mediation analyses provide two explanations for this increased loyalty, which can be seen as a major contribution of this research. First, the technologies complement competitive by loyal cross-channel behaviour through increased cross-channel activities. Second, the technologies substitute competitive by loyal cross-channel behaviour. The latter result supports researchers suggesting that omnichannel technologies reduce competitive cross-channel behaviour or free-riding by keeping customers in the retailers' own channels.

Practical implications

Retailers can benefit from offering STW and WTS technologies and should communicate their usefulness to customers. They benefit from the complementary effect, as research has shown that customers using multiple channels are more satisfied, loyal and profitable (Frasquet and Miquel, 2017; Kumar et al., 2018; Neslin, 2022; Zhang et al., 2018). Furthermore, retailers can benefit from a substituting effect, as the technologies also directly cause a shift to more loyal cross-channel behaviour. Hence, by keeping customers in their own channels, retailers can turn potential competitive into loyal channel switching.

Research limitations and outlook

Omnichannel technologies are only one of several possible influencing factors of cross-channel behaviour and loyalty. Therefore, in particular the effects on loyal versus competitive cross-channel behaviour are relatively small. We therefore considered several further control variables, but have not discussed their influence in detail because of space restrictions. We further observed significant effects of the control variables country and product group. Future research should therefore also investigate these effects more deeply.

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Monetizing in Free-to-Play Games: A Retail Mix Perspective

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Keywords

Free-to-Play (F2P) Games; In-Game Retailing; Virtual Retail Mix; Freemium

Introduction

"When consumers have free time, we compete with Fortnite more than HBO", stated Netflix in 2019 on a letter to shareholders, signaling the shift in how entertainment, engagement, and consumption are increasingly converging in digital environments. The gaming industry is worth $396 billion, way more than cinema and music combined, and gathers 3 billion enthusiasts worldwide that regularly dedicate time and efforts to live virtual experiences (Statista, 2024). From a leisure and entertaining activity, gaming has evolved across the decades to a cultural and commercial phenomenon, not just shaping how people spend their free time but also how they interact and, ultimately, how and what they shop. Gaming as a platform for commerce is a recent development of the industry that follows the evolution of business models within the gaming industry itself. Traditionally, revenues are generated by selling full-priced games to players interested in completing them before switching to a more recent title. Nowadays things are rapidly changing: the emergence of virtual economies, in-game currencies, and digital marketplaces within free-to-play (freemium/F2P) games has laid the foundation for a new wave of gaming deeply interconnected to retailing, setting a new and common frontier for both industries.

In freemium games revenues are mainly generated by selling additional services of materials to "enhance" users' game experience (Gu et al., 2018; Hussain et al., 2023), the major challenge consists of attracting free users and ultimately converting them into paying customers (Beltagui et al., 2019; Gu et al., 2018). In-game shopping generated revenues for $710 billion in 2024 (Statista, 2024), with strategies and patterns close to the realm of Retailing and its well-established retail mix. Brands of any kind are increasingly embedding themselves within these virtual realms not to miss the in-game shopping opportunities, going way beyond advertising and mere product placement, yet engaging with retailing-like dynamics offering in-game digital goods that often corresponds to their physical counterparts (i.e., a pair of Ray-Ban sunglasses for a Meta avatar; Adidas Stan Smith sneakers for a Fortnite player; a BMW car to race in Rocket League and more) in proper digital shops, adopting ad-hoc price and assortment management strategies. These initiatives exemplify the seamless integration of retail within gaming environments, blurring the lines between play and purchase. This paper explores the ascent of in-game retailing, charting its progression from freemium models to premium strategies, from a retailing mix perspective and towards a tentative *Virtual Retail Mix* model.

Purpose

The aim of this study is to examine the monetization strategies adopted by free-to-play (F2P) gaming platforms through the lens of the retail mix, exploring how these dynamics shape consumer behaviour within digital game environments. Building on an established theoretical framework in the field of retailing (Levy & Weitz, 2009), the research adopts an abductive approach to investigate how the levers of the retail mix are reinterpreted and operationalized in F2P ecosystems. F2P platforms represent a distinctive business model in the broader landscape of digital consumption: they offer full and free access to gaming content while monetizing through optional mechanisms of engagement and in-game purchases. Despite increasing academic interest in gaming and virtual economies/experiences, there remains a lack of systematic investigation into the retail strategies that underpin these models, especially when in-game stores and shops also offer branded contents and/or digital products available for purchase. To address this gap, this study employs a dual qualitative methodology, combining semi-structured interviews to F2P gamers with a netnographic analysis of cross-platform F2P gaming environments and user interactions.

More than just describing current practices, the research aspires to build a conceptual framework that extends the traditional retail mix into the domain of interactive/immersive digital spaces. The study seeks to develop a model - tentatively referred to as the Virtual Retail Mix - that captures the specific features of value creation, distribution, and consumer engagement in virtual retail environments in-game. This model aims to bridge theoretical insights from retail studies with empirical observations of F2P game dynamics, offering a new lens for understanding how retail logics are evolving within the gamified, immersive, and participatory infrastructures of digital F2P gaming. Ultimately, the study contributes to the academic discourse on digital retail by foregrounding the commercial architectures of F2P games and their capacity to sustain monetization through hybrid strategies of play and purchase, drawing both from eCommerce literature, as well as digital goods purchasing/ownership. The findings aim to inform both scholarly debate and managerial practice, supporting the development of more effective and sustainable strategies in the fast-growing market of digital gaming.

Conceptual framework

We draw from Atasoy and Morewedge’s (2018) psychological ownership theory, which explains why digital goods are often valued less than their physical counterparts. In the context of gaming, this presents a paradox: although in-game digital goods (such as skins, weapons, or avatars’ accessories) are central to user experience and often expensive, they remain intangible. We propose a conceptual framework in which the value perception of digital goods in videogames is shaped by retail mix elements that enhance psychological ownership.

While traditional retail mix components - such as price, product assortment, communication mix, etc. - are designed for physical retail, they can be reinterpreted in the digital context. For example, product assortment in games can refer to the variety and uniqueness of in-game items, which may strengthen identity expression and foster ownership. Communication mix becomes essential in creating narratives and emotional connections around digital items, while price strategies can signal exclusivity and value. Store design and display, translated into the user interface and in-game marketplaces, influence how tangible and controllable digital items feel. By leveraging these adapted retail mix dimensions to trigger psychological ownership, game developers can counteract the typical undervaluation of digital goods and drive stronger purchase intentions.

Methodology

Due to the exploratory aim of the research topic, the present study adopts a qualitative approach (Swedberg, 2020), combining semi structured interviews and netnographic analysis (Kozinets, 2002), to gain an in-depth understanding of the dynamics of interest. The data collection process was executed in two stages. Firstly, 40 semi structured interviews with video gamers who engage in gaming on a regular basis were conducted online in Italian - the interviewees' native language -, recorded, transcribed and translated in English to facilitate detailed analysis. The sample of video gamers was meticulously selected using a purposeful sampling technique (Suri, 2011) based on their expertise in F2P video games. To enhance the representativeness of the sample, a snowball sampling approach (Parker et al., 2019) was employed, ensuring an adequate number of respondents were included in the study. The interview protocol was developed based on a phenomenological approach (Thompson et al., 1989) with the aim of analyzing their gaming and purchase experience using these video games.

Moreover, an immersive netnography analysis was undertaken, encompassing direct observation of "non-human actors, interface functions and other environmental factors" (Kozinets, 2022) that can be crucial to understand the virtual experiences provided by these online games. This phase enabled data triangulation (Myers, 2019) from interviews with evidence collected directly in digital contexts, thereby reinforcing the validity of the results by comparing subjective statements with observed practices. Following grounded theory pillars (Charmaz, 2006, Corbin and Strauss, 1990), data have been analyzed according to the method proposed by Magnani and Gioia (2023) by using the systematic combining approach (Dubois and Gadde, 2002) - an iterative approach that constantly integrates theory and empirical data – during the generation of the codes. Following abductive interpretation, the collected data were coded thematically, with the support of qualitative analysis tools, to identify emergent patterns traceable to retail marketing mix (Blut et al., 2018).

Preliminary Findings

The qualitative analysis, following a deductive approach based on the retail marketing mix framework (Blut et al., 2018), revealed that F2P platforms implement advanced strategies to maximize monetization and player engagement. Following the retail mix structure, preliminary findings are presented per each lever:

Product assortment and branding

The data collected demonstrate that F2P games exhibit dynamic assortment, offering a wide variety of digital content, including skins, cosmetic items, and exclusive experiences. The analysis indicates that the perception of quality is not contingent on functional features (utilitarian), but rather on the personalization and uniqueness of products (hedonic); similarly, impulse buying behaviour prevails when deciding whether buying or not premium contents in a free environment. In-game stores manage assortment strategically: depth and width are carefully managed not to overload gamers with choice, also proposing events and/or limited editions, leveraging upon immediacy and exclusiveness. Results also suggest that branding in free-to-play (F2P) platforms develops on two levels: the game brand itself and the presence of external brands. The sale of digital products related to fashion, sports, and entertainment brands strengthens the platform's identity and creates a sense of exclusivity among players.

Observations show that the pricing model in F2P games is based on a combination of real currency and virtual tokens. Interview analysis revealed that this structure affects the perception of spending, making it less immediate and incentivizing repeat purchases and impulse buying behaviours. Emerging data demonstrate that mechanisms such as battle passes, experience points, subscriptions, and exclusive rewards for “paying” customers help strengthen loyalty, creating cycles of engagement that drive spending to maintain competitive or aesthetic advantages.

Communication and distribution: the analysis revealed that communication is based on persuasive strategies, with strong use of influencers, online communities, and push notifications to stimulate purchases through scarcity techniques and limited time offers. Finally, the results demonstrated that in F2P games, distribution is entirely digital, emphasizing immediate transaction management and cross-platform availability. This development serves to expand the usability and reach of the business model.

Contributions

This study contributes to the academic discourse on digital retail and consumer behavior by offering a systematic analysis of monetization strategies within free-to-play (F2P) gaming platforms through the established lens of the retail mix. While prior research has explored virtual economies and gaming consumption patterns, this paper introduces a novel conceptual framework - the *Virtual Retail Mix* - which extends traditional retail logic to immersive and interactive digital environments. By leveraging grounded theory and abductive reasoning, the study develops a model that captures how retail levers such as assortment, pricing, branding, and promotion are reinterpreted within in-game contexts to foster engagement, stimulate purchasing, and enhance perceived ownership of digital goods.

On a theoretical level, the research bridges a gap between retailing literature and game studies, integrating insights from psychological ownership theory to explain value attribution in intangible environments. On a practical level, the findings provide actionable guidance for developers, brand managers, and digital marketers seeking to design more effective and sustainable monetization strategies within gamified ecosystems. In doing so, the paper lays the groundwork for future inquiry into hybrid commerce models that blend entertainment, identity construction, and retail logic in virtual spaces.

Practical implications

The findings offer valuable insights for game developers and brand managers aiming to enhance monetization strategies within F2P environments. By understanding how retail levers can be adapted to virtual contexts, businesses can design more engaging in-game stores, optimize pricing and assortment strategies, and strengthen user loyalty through perceived value and ownership. The proposed *Virtual Retail Mix* provides a strategic tool to navigate the convergence of gaming and retail, supporting more effective and sustainable commercial practices in digital ecosystems.

Research limitations and outlook

This study is exploratory in nature and relies exclusively on qualitative methods, namely semi-structured interviews and netnographic analysis, focusing on the consumer perspective. While this approach offers rich, in-depth insights into user experiences and behaviors, it does not capture the strategic intentions or challenges faced by game developers and brands engaging in in-game retailing. Future research should incorporate the perspectives of industry stakeholders - such as game studios and companies experimenting with virtual commerce - to triangulate findings and validate the proposed *Virtual Retail Mix* model from a managerial standpoint.

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Data privacy and Ethics in the Phygital Spaces of Pharmacies – the case of the elderly consumer

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Keywords

Phygital customer experience; Pharmacy retailing; Phygital retail transformation; Elderly consumers; Digitalisation in healthcare; Digital trust and privacy

Introduction

Pharmacies have experienced an increase in demand for healthcare products, including prescriptions and over-the-counter (OTC) products. Given the nature of its products, the industry was not severely negatively affected by the recent pandemic (Statista, 2023). It remains a highly regulated environment (Assin et al., 2025). The pandemic forced many older adults into situations in which online shopping and remote consultations became necessities rather than options. This shift has prompted research into the behaviour of the elderly regarding their technology usage and willingness to engage with these newly available digital tools (Erjavec & Manfreda, 2022; Truong & Truong, 2022). Simultaneously, this move toward digitalisation has encouraged retail pharmacies to embrace omni-channel strategies that combine the advantages of e-commerce and in-person interactions. Online pharmacies enable customers to purchase medicines (both prescription and OTC medicines) online and deliver them through their e-commerce supply chain, providing convenience and efficiency (Srivastava & Raina, 2021). This study views this experience as phygital as it blends the physical, human, and digital to provide compelling and seamless customer experiences (Batat, 2024a).

It is estimated that by 2030, one in six people will be aged 60 years or older (Statista, 2023). This age group is characterised by mental and physical changes which impact information processing and perceptions of their experiences, consequently, they are also perceived as a vulnerable group (Barbosa et al., 2019). Despite the size and significance of this segment, it has largely been ignored in retailing and technology-related research (Berg & Liljedal, 2022). For pharmacy retailing, this age cohort is significant, as they are more likely to purchase medicines to address medical issues (van Rensburg et al., 2017). However, they often perceive greater risks associated with online transactions, including concerns about security, data privacy, and reliability of digital services.

Purpose

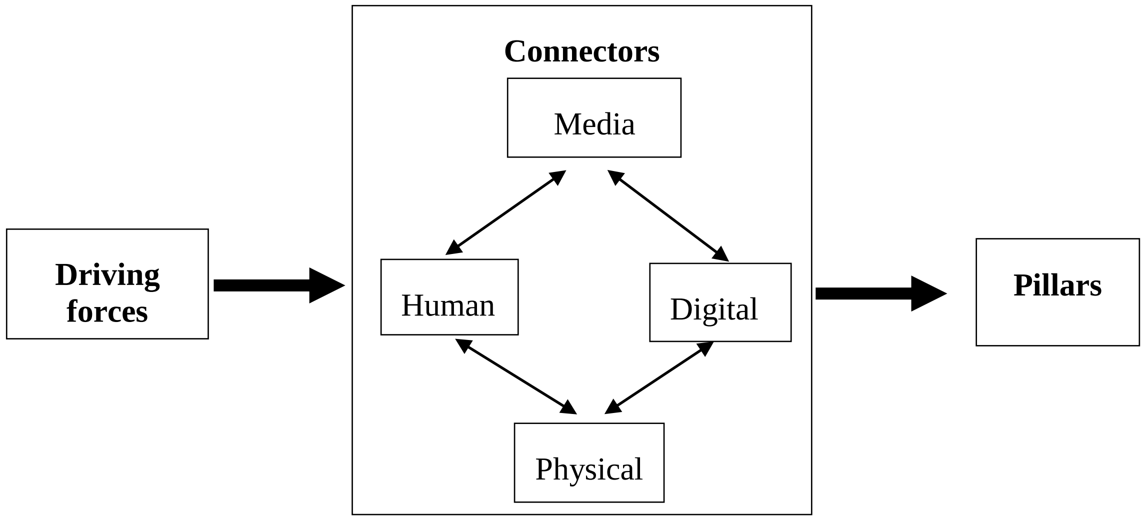
Pharmacy services are increasingly integrating digital tools to service elderly consumers. Traditionally, these customers have been more reliant on in-person care, highlighting the need to investigate them in the digital ecosystem and investigate their customer experiences. This study aims to explore the digitalisation of retail pharmacies and how this transformation impacts elderly consumers, particularly in terms of data privacy and ethics. The analysis is guided by the connectors of the Phygital Customer Experience (PH-CX) model (Batat, 2022).

Conceptual framework

Retailers are increasingly using technology to “bridge the digital and physical worlds” to provide superior-quality customer experiences (Gensler & Rangaswamy, 2025, p. 2). Pharmacies use digital tools that enable online consultations, personalised recommendations, and automated prescription refills. These services enhance consumer convenience and accessibility but pose significant risks and ethical concerns for customers (Assin et al., 2025), particularly within the context of the elderly demographic, who may face unique challenges when interacting with phygital services.

The phygital customer experience (PH-CX) framework can be used to explain the functioning of the phygital context and comprises driving forces, connectors, and pillars (Batat, 2022) (See Figure 1). The driving forces (e.g., extrinsic and intrinsic values) impact how value is shared between the organisation and the customer. Phygital connectors are at the centre of this framework and comprise an interaction between physical, human, digital, and media content technologies to provide these experiences (Batat, 2024b). These four connectors or linking elements (Gallery, 2024) serve as the focus of this study.

Figure 1 The phygital customer experience (PH-CX) framework



Source: Adapted from Batat (2022)

The connectors in the PH-CX model are the specific factors that influence how the elderly perceive the retail pharmacy experience and their risk perceptions and interactions, as reflected in Figure 1. *First*, organisations use media to connect with customers, as it is used to build their image and support their retail identity. This includes how companies inform consumers about products and services, promote an image, and enhance their relationships (Batat, 2022). Media can influence the perceptions of various pharmacy chains and the credibility of the source (Assin et al., 2025). *The second* is the role of humans in physical experience. Pharmacy services can be perceived as risky because of the products sold, which may have life-threatening consequences for those taking medication (Assin et al., 2025). Physical stores include a person whom they can consult if they have any questions, but this is not equally available on digital services. *Third*, the digital aspects include all the devices, platforms, and apps used to connect with customers, websites, apps, and other digital tools (Batat, 2022). Their design is particularly important as it impacts how they engage with the organisation (Mele et al., 2023), which presents risks, particularly for vulnerable elderly consumers (Barbosa et al., 2019) because of a lack of digital literacy or a deep understanding of data privacy risks. The design is particularly relevant to the elderly, who may perceive these services differently from other cohort groups (Berg & Liljedal, 2022). *Fourth*, the physical connector refers to physical evidence that matches the brand's consumer values as well as the brand's identity (Batat, 2022). This includes the physical and online experience and how these align as organisations seek to provide a seamless experience (Mele et al., 2023). Examples include in-store displays and merchandising (Batat, 2022).

The risks for the elderly in phygital pharmacy services

Online shopping experiences must be emotional and comfortable (Mele et al., 2023). However, several risks or negative outcomes can be associated with online transactions for the elderly; yet, the convenience of online pharmacies can mediate online risks (Assin et al., 2025). Financial risks, such as transaction errors, fraud, or difficulties in processing refunds and returns, are particularly relevant, and medical conditions and prescription histories are highly sensitive data. Additionally, identification is needed when conducting the transaction, as medicine is being dispensed. For elderly users, navigating these digital prescriptions still poses challenges, particularly if they are unfamiliar with the technology. A critical factor that emerges from this transition is the trust placed in digital systems. Trust is fundamental to consumer acceptance of digital pharmacy services, especially among older adults who may be more vulnerable to cyber threats and privacy breaches (Rangi et al., 2024). Compliance with personal and health data is particularly challenging when the target demographic is less familiar with digital privacy yet requires rigorous ethical standards. Therefore, digital pharmacy platforms must ensure robust privacy protection measures (Assin et al., 2025). Designing user-centric phygital pharmacy services is indispensable not only for ensuring access but also for creating a sense of autonomy among elderly consumers. Elderly individuals who feel empowered in their healthcare decisions are more likely to engage with available services and adhere to prescribed medication regimens (Erjavec & Manfreda, 2022). Hence, pharmacies must focus on facilitating pathways that grant older adults agency and confidence in navigating phygital landscapes. The phygital pharmacy landscape continues to evolve, therefore, continuous assessment and adaptation of the service models are necessary. Research has underscored the importance of regularly soliciting feedback from older adult users to inform service enhancements (Lučić et al., 2022). By establishing a framework for ongoing evaluation that accounts for the nuances of elderly users' experiences, pharmacies can ensure that they meet the complex needs of the older clientele.

Methodology

This study uses an interpretivist perspective, specifically interviews, which are particularly suited for exploring phygital experiences (Batat, 2024a). A qualitative, exploratory approach is used to examine the intersection of digitalisation, privacy, and elderly consumer behaviour in retail pharmacy settings. This method allows for a rich understanding of individual experiences and perceptions. Interviews will be conducted with the participants belonging to this demographic group. The interview data will be analysed using thematic analysis (Braun & Clarke, 2006), allowing the identification of recurring themes and patterns related to risk perceptions, trust, and digital engagement. This methodological approach enables a holistic understanding of the physical experiences of elderly consumers.

Findings

The ongoing study is currently in the data collection phase, and the findings will be reported at the conference. However, preliminary insights suggest several key themes emerging from interviews with elderly consumers regarding their experiences with phygital pharmacy services. Specifically, they relate to digital literacy challenges, trust and risk perceptions, the need for human interaction, ethical and privacy concerns, and balancing convenience and security. These insights provide a deeper understanding of the barriers to and opportunities for digital pharmacy adoption among elderly consumers. The final analysis further explores how retailers can develop inclusive, secure, and human-centred digital solutions to better serve this demographic.

Contributions

Traditional phygital research has focused predominantly on user experiences and technological integration without fully exploring how specific demographic factors, such as age, affect user interactions with phygital environments. Retail pharmacies require the consideration of a more intricate customer journey that involves regulatory issues, health literacy, and the need for face-to-face reassurance. These diverse factors open new avenues for interdisciplinary phygital research connecting marketing, healthcare management, and information technology.

This study contributes to phygital research by examining the intersection of ageing, privacy, and digital retailing. It expands the current literature beyond younger tech-savvy consumers to include elderly users, raising questions about how retail pharmacies should adapt their practices to ensure data security and ethical transparency, especially when dealing with sensitive health information. By employing a phygital customer experience framework that effectively balances technological and human elements, pharmacies can navigate the complexities of this integration. Ensuring that the vulnerabilities of specific demographics, particularly older adults, are understood and accommodated will be critical for fostering inclusive, ethical, and effective pharmacy services in a rapidly advancing digital landscape.

Practical implications

This study will have wide-ranging practical implications, highlighting the need for digital tools designed for elderly consumers and emphasising user-friendly interfaces and tailored customer support. It also suggests digital literacy programs, clear privacy policies, and transparent data handling by pharmacy platforms. Retail pharmacies must clearly communicate data handling and security measures to build trust with elderly customers. This research aims to help policymakers and healthcare providers balance the convenience of digital services, such as live chats with pharmacists or video consultations, with regulatory and ethical concerns, ensuring quality care in both physical and digital domains.

Social implications

The digitalisation of retail pharmacies has significant societal implications, particularly for elderly consumers who rely heavily on these services. While digital tools can improve healthcare accessibility by reducing the need for physical pharmacy trips, they also expose this vulnerable group to potential data breaches and privacy violations. Elderly people are often more concerned about safeguarding sensitive health data, such as medication histories, medical conditions, and personal identification information. Misuse of these data can lead to serious consequences, including financial exploitation, identity theft, or discriminatory practices.

Conclusion

The retail pharmacy sector is undergoing significant digital transformation and reshaping the consumer experience. However, elderly consumers require tailored digital solutions that prioritise trust, security, and accessibility. This study contributes to the broader discourse on phygital research, emphasising the need for ethical, inclusive, and consumer-centric approaches to digital pharmacy services.

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Beyond Pet-Friendly: Elevating Service Hospitality for Paws and People

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Research paper.

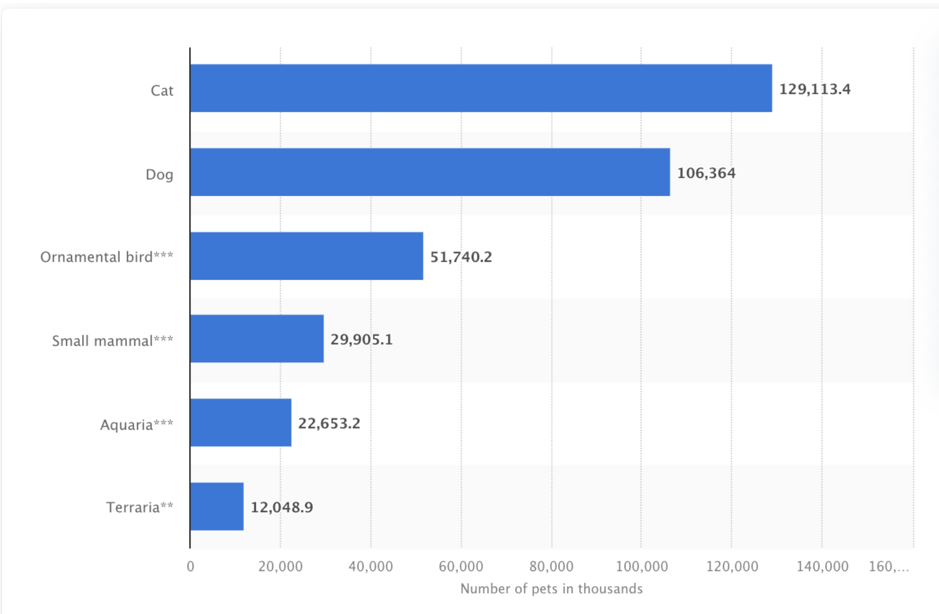
Keywords

Pet economy, service marketing, tourism, netnography.

Introduction

The number of pet-owning households in Europe has been experiencing a significant and rapid increase. As of 2023, an estimated 166 million European households owned at least one pet (Statista, 2025; Euromonitor, 2024). This growing trend is accompanied by a notable rise in consumer spending on pets, which in turn is driving substantial growth in the pet food industry's revenue.

Fig. 1 - Number of pet animals in Europe in 2023, by animal type (in 1000s)



Source: Statista, 2025

However, the Pet Economy market extends beyond the pet food and accessories sector, encompassing a wide range of additional services. Pet owners - particularly dog owners - are increasingly seeking and investing in premium services for their animals. This trend reflects a broader value shift, wherein pets are no longer perceived merely as "animals" but as integral family members.

As a result, the term “pet owner” is gradually being replaced by “pet parent”, highlighting a deeper emotional (firstly) and financial (secondly) commitment to pet care. Beyond terminology, this evolving mindset has significant implications for the customer experience, influencing the key factors that drive consumer behaviour in the purchase and consumption of advanced services.

Previous literature

Over the past two years, Academic literature - particularly in the field of Tourism - has devoted significant attention to the topic of services for travellers accompanied by pets.

A recent study (Meng et al., 2024), based on a two-step procedure by using a confirmatory factor analysis (CFA) and structural equation modelling (SEM), highlights the complexity of pet owners’ decision-making processes when choosing pet-friendly hotels. By integrating Behavioural Reasoning Theory (BRT), Norm Activation Theory (NAT), Theory of Planned Behaviour (TPB), and Mindfulness Theory, it provides a comprehensive framework for understanding the psychological and environmental factors influencing these choices. Key findings indicate that motivations for or against pet-friendly tourism significantly shape behavioural intentions through two primary psychological mechanisms: Self-Interested Process (where personal benefits drive the decision to choose pet-friendly accommodations) and Norm Activation Process (where moral and social norms influence the preference for pet-friendly travel options). Additionally, external environmental factors were found to have a direct impact on behavioural intention, reinforcing the role of external influences such as regulations, social expectations, and marketing efforts. The study also identified the moderating role of mindfulness as a personal trait, meaning that individuals with a higher sense of mindfulness demonstrate different behavioural patterns when making travel decisions involving their pets. The study pointed out that the pet-friendly market can be splitted in *anthropomorphists* (persons who want to travel with their pets, because the pets are seen as their children or family members) and *zoomorphists (*people who wish to travel with pets but see their pets as animals). Another study (Koufodontis and Melissourgou, 2024) explores the implications for hotels accommodating both pet-owning guests and those who may not share the same affinity for animals. By integrating both quantitative and qualitative methodologies (a mixed method approach, with quantitative surveys based on questionnaires and secondary qualitative data investigation), the research examines perspectives from both hospitality providers and tourists, offering a comprehensive analysis of this complex dynamic. Findings indicate the existence of a three-way interactive relationship between hotels, guests with pets, and guests without pets. To effectively navigate this interplay, hotels must consider a set of key influencing factors and implement targeted policies designed to balance the needs and expectations of all parties involved. In the study published by Zhang et al. (2024), a mixed-methods study was conducted to assess consumer perceptions and evaluations of pet-friendly hotels. The findings identified key attributes that customers consider essential in such accommodations, shedding light on their specific expectations regarding both utilitarian and hedonic values. In Study 1 they collected reviews on TripAdvisor, while in Study 2 an experimental study was carried out to examine the distinct impact of hedonic and utilitarian attributes on consumer responses: the results demonstrated that when hotels offer high utilitarian value, consumers exhibit positive attitudes regardless of the presence of hedonic features. Conversely, when utilitarian attributes are weak, strong hedonic elements become crucial in shaping favourable consumer perceptions. Kim et al. (2024) determined distinctive attributes and adopt importance performance analysis in pet-friendly hotel context, identifying six distinctive attributes of pet-friendly hotels (i.e., pet-related activity support, pet-centric facilities and services, pet-centric room amenities, pet-friendly room features, pet-related house rules, and pet-friendly safety measures), starting from the investigation from the official websites of known pet-friendly accommodations and physical visits to pet-friendly hotels. Then, quantitative approaches (CFA) were employed to point out the distinct attributes of pet friendly hotels based on data collected.

Research gap

Although the study on pet ownership and how it affects consumer behaviour is rising in literature, there is a lack of in-depth studies that focus on customer experience in pet-friendly service companies. In particular, the existing gaps in the literature concern the actual *sentiment* of travellers with pets as they interact with pet-friendly accommodations, which often also host guests without animals. Most recent studies have primarily focused on identifying functional and hedonic attributes, while overlooking the emotional dimensions of pet-friendly travel - an experience increasingly intertwined with family values.

Moreover, research on this topic has been predominantly approached through quantitative studies, with only a limited number of analyses employing content analysis or other qualitative methodologies.

Purpose

The aim of this study is to explore the lived experiences of travellers accompanied by their pets, with the goal of uncovering deep-seated fears and expectations that are often difficult to capture through quantitative analysis**.**

Conceptual framework

In this paper, the conceptual integrated framework discussed by Palmer (2010) is used as key to understand feelings and satisfaction of travellers with pet. Basic stimuli converge into three higher-order constructs (Tangible and process quality, Brand relationship and Interpersonal Relationship), ultimately shaping the development of attitude. This process is mediated by both the sequencing of stimuli and the individual's emotional predisposition. However, attitude is not necessarily stable over time; rather, subsequent recollection of an experience tends to emphasize selective elements of the overall event.

Methodology

Netnography powerfully reflects the immersive time and strong involvement (Kozinets, 1999) that followers and fans invest in striking up a relationship with influencers. Considering the level of participation of the researcher, the method refers to the "observational netnography", defined and applicated in Brown, Kozinets and Sherry (2003), trough the content analysis (Langer and Beckman, 2005). The research project followed Kozinets (2010) instructions: definition of research question, community identification and selection, community participant observation and data collection and, lastly, data analysis and iterative interpretation of main findings. Starting from Rheingold's (1993) definition of virtual communities as "social aggregations that emerge from the net when enough people carry on ... public discussions long enough, with sufficient human feeling, to form webs of personal relationship in cyberspace", the Italian Facebook Group "Going on vacation with Fido" (in original language: "Andare in vacanza con Fido") has been considered. The public open Group has been created 8 years ago, and today more than 91.500 pet owners are engaging in daily discussion. Data collection is composed by: (1) dataset: the data directly collected on Facebook, and (2) fieldnotes: the data that the researcher inscribes regarding observations of the community, its members, interactions and meanings. The netnographic observation lasted 8 months, spanning from 2024 to 2025.

Findings

During the observation period, the members of the Group built, through a process of signalling and co-creation, a list of characteristics that facilities must have to ensure a truly pet-friendly service (see the Appendix for the original co-created document). Palmer's framework proves to be extremely valid, both for the aspects related to the initial stages of experience creation and for the role of emotional factors in evaluating and remembering it.

In particular, while confirming some of the key insights from previous literature, certain aspects prove to be crucial for a satisfying customer experience. Among the *Tangible and Process Quality* aspects, elements related to reception and stay stand out, such as welcome sets and the possibility of accessing all areas of the facility together with one's pet. Regarding *Brand Relationship*, transparency of conditions and innovation in offerings are fundamental. However, perhaps the most interesting result emerges in the realm of *Interpersonal Relationships*: while it seems relatively easy for facilities today to identify and ensure the basic standards of being pet-friendly, much remains to be done on the interpersonal relationship front. Discussions within the Group clearly highlight that most travelers feel merely *"tolerated"* with their pet rather than truly "*welcomed"*. Some even feel *"robbed"*, perceiving a complete lack of interest in their pet's well-being, which is seen only as a source of overpricing. This feeling is further exacerbated by interpersonal interactions with other guests who do not have a pet.

Contributions

This paper aligns with a growing body of research that parallels the increasing role of pets in shaping people's customer experience. In this context, its contribution is twofold: (1) it is the first study to apply the *netnographic approach* within a real pet owner community - an approach that (2) successfully highlights, for the first time, some critical aspects of the specific customer experience, particularly the feeling of being merely tolerated in many cases. This perspective complements previous studies, which, using different analytical methods, had not uncovered this perception - a factor capable of undermining the very foundation of a satisfying customer experience, creating a huge gap between expectations and reality.

Practical implications

These insights provide valuable implications for the hospitality and tourism industry, suggesting that companies should tailor their strategies by addressing both rational and normative considerations, while also recognizing the influence of external factors and individual psychological traits and previous experiences. There is no just one perfect "recipe", but every company must define its own mix-and-match of services, as merely "formally welcoming pet" is no longer sufficient. In the upgrading pet hospitality, alongside the upgraded services, there must be an awareness that simply *tolerating* this growing segment is not enough. On the contrary, this approach would be counterproductive. This insight can be extended to the entire service industry, focusing on how pets are generally "welcomed". Restaurants, shops, and service companies can seize this opportunity to gain clarity and decide where they stand on the matter.

Research limitations and outlook

The main limitations of this study stem from the lack of representativeness of the results, as the netnographic research was based on a single Italian community. To overcome these limitations, it will be necessary to broaden the scope of analysis and proceed with a second phase combining mixed methods.

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Appendix

Features pointed out by the Facebook Group that allow a facility to provide a pleasant and safe experience for both pets and their owners, going beyond mere "tolerance" of animals and truly making the vacation pet friendly.

1. Pet-Friendly Reception and Access

- **Clear Pet Policy:** Rules regarding pets should be clear and communicated in advance, specifying any limitations, additional fees, or special services.
- **Pets Allowed in Rooms/Accommodations:** Pets should be allowed in rooms without excessive restrictions (size, breed, number of animals, etc.).
- **Access to Common Areas:** Some common areas should be accessible to pets, such as gardens, courtyards, and indoor and outdoor relaxation zones.
- **Pets Allowed in Dining Areas (at least outdoor ones):** Allow pets to accompany their owners in at least the outdoor areas of the restaurant. Ideally, a designated indoor area should also be available.

2. Pet Services

- **Welcome Kit for Pets:** Offering a small welcome kit (water bowls, small snacks, and resting accessories like a cushion, blanket, or mat) demonstrates care for pets.
- **Dedicated Spaces for Pet Needs (mandatory in campsites, optional in hotels):** The facility should provide adequate areas for pet walks and designated pet relief areas, preferably equipped with waste bags and bins.
- **Pet Washing Area or Shower (mandatory in campsites, optional in hotels):** A pet cleaning area, especially in facilities near the sea or countryside, is a valuable feature.

3. Safety and Environment

- **Safe Environments:** Fenced outdoor areas and private spaces should ensure pets cannot wander off or find themselves in dangerous situations. Old pets and disable pets must be welcomed too.

• **Pet-Safe Infrastructure:** No fragile or potentially hazardous objects should be within pets' reach. Safety should also be ensured inside rooms.
• **Spacious Rooms/Accommodations:** Pets need space to move comfortably. Rooms or apartments should be large enough to ensure the comfort of even larger pets.
• **Useful Accessories for Pets' Stay:** Water/food bowls and beds/cushions for resting.

4. Trained and Welcoming Staff

Staff should be prepared to manage pets and warmly welcome their owners, knowing how to interact with four-legged guests, also in situation with more than one dog in te same room.

5. Extra Services – Not Necessary but Highly Appreciated

• **Dedicated Play Areas:** A well-equipped space for pets, possibly with toys or obstacle courses, allows them to exercise and socialize with others.
• **Recommended Activities and Walks:** Maps or recommendations for walks and activities to enjoy with pets in the surrounding area.
• **Pet Sitting and Dog Walking:** Offering pet sitting or dog walking services enables owners to explore the destination without their pets when needed.
• **Partnered Veterinarian or Emergency Contacts:** Having access to a trusted veterinarian's contact details for emergencies is reassuring.

Safety, Transparency and Customer Trust on Blockchain in Food Supply Chain:

Systematic Literature Review

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Keywords: Blockchain, Safety, Traceability, Transparency, Customer Trust, Food Supply Chain

Purpose
This paper aims to explorethe current status, major benefits, key challenges and future perspectives of blockchain-driven solutions adoption in enhancing food traceability and transparency. It also investigates Customer Trust influence on blockchains adoption in food supply chains.
This research addresses the following three questions:

- How does blockchain technology enhance transparency in food supply chains?
- What factors influence customer trust in blockchain-based food traceability systems?
- What is the relationship between blockchain's technical capabilities and customer adoption?

Design/methodology/approach
In this study, a systematic literature review of a selected corpus of 22 peer-reviewed articles published between 2018 and 2024 was conducted to provide an overview of the utilization of blockchain-based technology in food traceability with a more in depth understanding of Customer Trust and adoption barriers influence.
The search process began with database selection and keyword formulation, followed by literature search process.Initially, 152 articles were identified from major academic databases (ScienceDirect, Springer, Web of Science) using keywords such as “blockchain”, “food traceability” and “Customer Trust”. Analyzed through a rigorous process, ensuring a twofold integration of Blockchain-based technology in Food systems and Customer Trust, and resulting in a set of 22 articles.
Findings
The findings reveal that blockchain technology has significantly improved various aspects of Food supply chain systems ensuring transparency alongside with traceability. Multiple retail companies have successfully leveraged blockchain technical capabilities. However, implementation divide, scalability and cost concerns, and regulatory and standardization issues hinder full potential utilization of blockchain based technology across the globe and constrain its widespread adoption. To which, customer trust (mainly related to lack of

awareness and understanding) and customer engagement are additionally considered as prominent barriers.

The results suggest that blockchain-driven solutions may be effective in ensuring food safety and supply chain transparency globally but require further research and stronger public and private partnerships (PPPs) in order to democratize the technology, bridge the trust gap, and enhance customer engagement.

Originality/value

In recent years, given the ever-evolving technology era humanity is witnessing and the increasing global commitment for food safety, there has been a growing interest in exploring the potential of blockchain-basedtechnology adoption in Food supply chains. This research highlights the significant influence of Customer Trust on leveraging the full potential of blockchain-driven solutions adoption in ensuring food traceability and transparency.

Research Limitations and Outlook

The study's scope is limited by(1) the emerging status of blockchain applications in food traceability, with restricted empirical studies examining actual customer adoption behaviors rather than stated preferences, (2)the rapidly evolving nature of blockchain technology, which means some findings may become outdated as implementation approaches mature,(3)the disparity in examination depth of customer trust across the studies (22 articles were included in the final analysis).

Building on these findings, ongoing research could focus on (1)testing the influence of specific transparency features on customer trust,(2)conducting longitudinal studies tracking changes in customer adoption as blockchain implementations mature,(3) examining the impact of cross-cultural differences on trust formation across various markets, and (4)assessing the effectiveness of various educational approaches for expanding customer understanding of blockchain.

Barriers to the Adoption of Cultured Meat

Investigating the Effects of Consumers' Ethnic-Cultural and Religious Characteristics

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Keywords
Cultured meat; food consumption; innovations adoption; neophobia; ethnic-cultural and religious factors

Introduction

Cultured meat, a type of cellular agriculture, is produced by growing animal cells in a lab without animal slaughter (Post, 2012). This innovation has the potential to reduce the environmental impact of meat production, as cultured meat generates far fewer greenhouse gas emissions and requires less land and water (Steinfeld & Gerber, 2010; Tuomisto, 2019). Additionally, it addresses critical concerns related to animal welfare, food security, human health, and the growing global demand for meat products, which increased from 280 million tons in 2008 to 340 million tons in 2020 (Redefine Meat, 2021). Yet, despite cultured meat holds great promise, it remains an early-stage technology with a limited market presence (Lucas, 2019; Pakseresht et al., 2022).

Cultured meat is largely unfamiliar to most consumers, facing considerable challenges, including cost reduction, regulatory approval, and social factors such as consumer acceptance, ethical concerns, and religious and cultural considerations (Chen et al., 2022). While considerable attention has been given to the potential for consumer acceptance of cultured meat (Bryant & Barnett, 2018; Wilks et al., 2019), other dimensions of its interaction with the social world have received less focus. Moreover, key factors driving this trend, particularly ethnic-cultural and religious considerations, have remained largely under-researched. Thus, despite cultured meat being a promising innovation in food consumption, most countries lack adequate insights into the barriers preventing the widespread adoption of this pioneering technology.

Purpose

This study examines key factors influencing the adoption and use of cultured meat in consumers' food-eating systems, highlighting the influence of ethnic, cultural, and religious considerations on the acceptance of radical innovations in food consumption.

Literature review

Research on cultured meat consumerism remains scarce, reflecting the negligible efforts devoted to investigating the potential impact of this innovation on consumers' food consumption system. To bridge this gap in the literature, this study relies on the limited studies that exist on this topic and draws on innovation adoption research and clean food studies, which collectively reveal several factors that may shape consumer demand for cultured meat, including:

Way of life, and socio-cultural factors:

Consumer way of life is one of the biggest challenges to cultured meat consumerism (Chiles & Fitzgerald, 2018). Hino (2010) and Hino and Levy (2016), investigated the role of cultural values in food consumption. They argued that consumers' way of life, as a cultural expression, encompasses elements such as shared behavioral norms within a community and the preservation of food-related attitudes and habits. For instance, many ethnic-cultural groups prioritize home-cooked meals, adhere strictly to traditional and ethnic cuisines in their daily diets, and rely exclusively on fresh, familiar, and authentic ingredients in their cooking (Hino, 2014). This suggests that meeting the criteria of other factors (e.g., perceived utility and healthiness) may not be sufficient to motivate consumers to choose cultured meat. As such,

Religious considerations:

The religious status of cultured meat has been relatively underexplored in consumer marketing and consumption research, despite its relevance to the world's 1.8 billion Muslims, 1.1 billion Hindus, 500 million Buddhists, and over 10 million Jews, comprising almost half of the global population. These people all follow religions with specific rules and customs around meat consumption. In Islam, the key consideration for meat consumption is whether it is deemed halal. Hamdan et al. (2018) argue that cultured meat can be considered halal if the cells are sourced from an animal slaughtered according to halal guidelines and no blood or animal-derived serum is used in the production process. In Judaism, most rabbis agree that cultured meat is kosher, although some argue that the cells must originate from an animal slaughtered according to kosher guidelines (Kenigsberg & Zivotofsky, 2020). In Hinduism, many adherents interpret *ahimsā*, the principle of nonviolence, as a mandate for vegetarianism. As a result, vegetarian Hindus may view cultured meat as a means of avoiding harm to animals (Dudek, 2013).

Perceived utility

The growing focus on health and wellness has made consumers more selective about their diets. As they become more health-conscious, they seek food that provides essential nutrients and satiety (Talwar et al., 2021). This trend has prompted consumers to pay closer attention to the components used in the food they eat. Furthermore, lab-produced cultured meat is often perceived to be healthier than its conventional counterpart.

Transparency in the production process

Consumers increasingly value information about production details, especially when it comes to innovative food products (Asioli, 2017). Consequently, consumers are demanding more comprehensive information about ingredients and production methods (Wang & Adhikari, 2023), thus reflecting a broader trend toward transparency in food production.

Neophobia

Food neophobia refers to "a reluctance to eat and/or avoidance of novel foods," and is closely related to the acceptance of new food products. Past research found that individuals who do not eat alternative meat tend to exhibit higher levels of food neophobia compared to light, medium, and heavy consumers. (Hoek et al., 2011; Hwang et al., 2020). Since cultured meat represents a new category in food consumption, neophobia could serve as a defense mechanism that negatively affects consumers' willingness to purchase these products.

Price

Numerous studies claim that high-priced products, relative to conventional alternatives adversely impact consumer choice and lead to fewer repeat purchases (Marian et al., 2014). However, other reports indicate that consumers would pay more for particular foods such as organic and clean food. Helminen (2023) observes that nearly half of global consumers are willing to pay premium prices, with Asian consumers being particularly inclined to pay extra. Meanwhile, Askew (2022), and Crawford (2023) found that consumers are willing to spend between 10% and 30% more for clean food.

Hypotheses:
H1: There is a negative relationship between 'way of life' and consumer intention to adopt and use cultured meat.
H2: Religious considerations have a negative effect on consumer intention to adopt and use cultured meat.
H3: There is a positive relationship between perceived transparency and consumer intention to adopt and use cultured meat.
H4: There is a positive relationship between utility and consumer intention to adopt and use cultured meat.
H5: Neophobia has a negative effect on consumer intention to adopt and use cultured meat.
H6: There is a negative relationship between price and intention to adopt and use cultured meat.

Methodology and study design:
The research instrument is a structured questionnaire involving 6 constructs measured using validated scales adapted from past studies. These include "way of life", "religiosity", "utility", "neophobia", and "price". To test hypotheses, data was collected from two Israeli populations: Jewish households (N=293) and Israeli Arabs (N=250).

Main Results
Hypothesis testing
The research model indicated a medium amount of variance explained in cultured meat adoption (R^2 = 56%). Overall, most of the study's hypotheses were supported thus providing statistical validation for the hypothetical relationships, see Table 1. Specifically, the findings provide statistical evidence supporting the study's claim that consumers' way of life positively influences their intention to adopt and use cultured meat in their diets (Bryant & Dillard, 2019). In doing so, the study highlights the impact of ethnic-cultural factors on food consumption patterns. Additionally, the results confirm that perceived utility is a key determinant of intentional behavior. The study also identifies neophobia and price as significant barriers to cultured meat adoption, as both were found to negatively affect consumers' willingness to try it. Conversely, transparency did not have a significant impact on adoption intention, suggesting that consumers may be open to purchasing cultured meat even without full familiarity with the technology behind it. Lastly, the findings indicate that religious considerations do not play a decisive role in deterring consumers from buying cultured meat.

Table 1

Results of Hypotheses Testing

	Path Relationship	**Regression Weights (direct)**		
		Estimate	C.R	P-value
H1	Way of life → intention	.19	2.21	< .05
H2	Religiosity → intention	-.03	- 0.88	> .05

H3	Transparency → intention	.06	1.09	> .05
H4	Utility → intention	.53	7.25	< .01
H5	neophobia → intention	-.57	-4.06	< .01
H6	Price → intention	-.31	-4.09	< .01

Contributions

This study broadens the scope of food consumption research in the context of innovative technologies by identifying key factors and illustrating when and how cultured meat can become a mainstream dietary choice. Secondly, the study offers a valuable perspective on the connection between socio-cultural and religious factors in food consumption and their influence on consumers' purchasing decisions. Finally, the study introduces a conceptual model for assessing cultured meat consumerism within the broader framework of food marketing. This model incorporates key constructs and demonstrates how they can be applied to systematically evaluate the adoption and use of cultured meat in specific contexts.

From a practical perspective, the study results present considerable opportunities for manufacturers and retail managers. Food manufacturers should recognize that the trend of cultured meat consumerism is fundamentally driven by various factors, especially perceived utility, price, and consumers' ethnic-cultural characteristics. This implies that manufacturers should acknowledge the ethnic and cultural values linked to the food-eating habits that are important to them. Retailers and other vendors can similarly use such emphases to target consumers.

Limitations

As with any research, certain limitations should be acknowledged. First, the study gathered data from a single country using online surveys, which may limit its generalizability. Replicating this study in other geographic regions, especially countries where ethnic-cultural values significantly influence consumers' food consumption habits is recommended. Additionally, for many consumers, adopting cultured meat may be linked to embracing a new way of life. Therefore, future research should explore consumers' motivations for accepting food innovations by applying frameworks such as the Unified Theory of Acceptance and Use of Technology (UTAUT). This approach considers factors like social influences, facilitating conditions, and hedonic motivations to better predict consumer behavior toward new food technologies.

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Author Index