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AI-Driven Dynamic Visual Merchandising and Its Micro-Level Impact on Impulse Buying Behaviour in Supermarkets

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Abstract

Artificial intelligence (AI) is fundamentally changing the world of physical retail, especially in how store visuals are created and used. Instead of just simple, static product displays, stores can now rely on visual merchandising that are not only more interactive and adaptive but also driven by data. Based on the SOR theoretical model, this investigation focuses on the role of AI-driven visual merchandising in supermarkets in influencing consumer impulse buying, with the degree of visual engagement acting as a mediating factor. Employing a quantitative research methodology, the study gathered and analysed through SEM customer survey data that was collected from shoppers who were exposed to various AI-powered visual merchandising elements such as upgraded display quality, custom shelf arrangements, live digital signage, and product recommendation visibility. The results show that AI-powered visual merchandising greatly enhances visual engagement, which then leads to impulse buying, with visual engagement being the complete mediator between AI and impulse buying. The most impactful element was the visibility of product recommendations. The paper underlines that visual engagement is the main psychological mechanism that connects technological factors with consumer behaviour and thus serves as a strong empirical support of the S–O–R framework in the case of AI technology in the retail context. On a practical level, supermarkets employing AI-powered displays that not only attract consumer attention but also smartly present product recommendations can increase the number of unplanned purchases.

Keywords: Artificial intelligence; Dynamic visual merchandising; Consumer visual engagement; Impulse buying behaviour; Supermarkets; Stimulus–Organism–Response, Structural equation modelling.

1. Introduction

1.1 Research Background

The retail industry has come a long way through a digital transformation and an increasing number of supermarkets are using artificial intelligence (AI) to take their traditional visual merchandising to a new level(Grewal et al., 2017; Pantano et al., 2017). Visual merchandising in fact, is a performance-related retail strategy aimed at the attraction of consumer's attention, raising of emotional responses, and the formation of purchase decisions at physical store environments(Kerfoot et al., 2003; Law et al., 2012; Turley & Milliman, 2000a). Shoppers' perceptions and behaviours are firstly influenced by the elements such as lighting, colour

schemes, signage, and product placement, especially in FMCG supermarkets(Law et al., 2012; Turley & Milliman, 2000a).

Visual merchandising has transformed along with the progression of technologies from merely static displays to more interactive and technology-driven formats(Huang & Rust, 2018; Pantano & Timmermans, 2014). Impulse buying remains a leading consumer behaviour in supermarkets and is a major contributor to retail sales through unplanned purchases(Bell et al., 2011). The majority of scholarly works have shown that attractive and visually appealing store settings have the power to induce impulse buying, thus, emphasizing the critical role of effective merchandising in the consumer choice processes (Law et al., 2012; Turley & Milliman, 2000b).

1.2 Research Context

AI technologies have drastically changed the field of visual merchandising by not only delivering more precise, personalized, and adaptable store visual stimuli but also by enabling these to be driven by data(Grewal et al., 2017; Huang & Rust, 2018; Shankar, 2018). Rather than just being static displays as they used to be, AI-powered merchandising systems can offer changing shelf layouts, anticipated product placements, and real-time digital marketing that are continually adjusted based on customer behaviour and store traffic(Grewal et al., 2017; Pantano & Timmermans, 2014; Shankar, 2018). The main drive behind these systems is algorithmic knowledge that can be used for the on-the-spot production and alteration of visual content, thus, deepening the essence of the store and at the same time strategically prompting unplanned purchases(Huang & Rust, 2018; Shankar, 2018).

As supermarkets put more of their trust in AI-driven solutions to boost the effectiveness of merchandising, visual stimuli are not only passively shown but are actively changed depending on the predicted reactions of the consumers(Davenport et al., 2020; Wedel et al., 2016). Displays generated by AI, personalized arrangements of shelves, digital signage in real time, and AI-based product recommendations together bring a change in the conventional retail practice of visual merchandising to a dynamic one(Verhoef et al., 2015; Wedel et al., 2016). The move calls for a comprehensive understanding of how consumers visually interact with the ever-changing retail environments and how such interaction has an impact on their tendency of buying on impulse(Pantano et al., 2017).

1.3 Problem Statement

Despite the increasing use of AI-driven visual merchandising in grocery stores and supermarkets, the academic literature has been mainly focused on traditional merchandising elements(Huang & Rust, 2018). Therefore, limited empirical evidence exists regarding the behavioural and psychological effects of visually mediated by AI and technically advanced displays. Consumer visual engagement, which can be understood as cognitive and emotional activities through which shoppers becoming aware of, deriving meaning from, and responding to store real-world visual elements, has in particular, been overlooked in AI-enabled retail scenarios(Wedel & Pieters, 2008).

Additionally, there is scarce empirical evidence detailing how the quality of AI-generated visual displays, dynamic shelf layout personalization, real-time digital signage, and the visibility of AI-based product recommendations affect consumer visual engagement and later impulse buying behaviour(Huang & Rust, 2018; Pantano et al., 2017). The mediating role responsible for the transformation of AI-driven visual cues into spontaneous purchase decisions are also not sufficiently explored. This paper aims to fill the void and thus investigates the influence of AI-enabled dynamic visual merchandising strategies on impulse buying behaviour in a supermarket setting while consumer visual engagement is conceptualized as a mediating variable. Through Structural Equation Modelling (SEM), the research aims to bring to light the psychological mechanisms that make AI-enhanced visual merchandising work.

1.4 Research Objectives

The study aims to examine how AI-driven visual merchandising practices in supermarkets influence consumers' impulse buying behaviour, with a specific focus on the mediating role of consumer visual engagement within an AI-enabled retail environment.

Primary Objective

- To investigate how supermarket shoppers' impulsive purchasing behaviour is affected by AI-driven dynamic visual merchandising.

Secondary Objectives

- To examine how AI-driven visual merchandising elements—including display quality, dynamic shelf layout personalization, real-time digital signage stimuli, and product recommendation visibility—collectively influence consumer visual engagement.
- To examine the influence of consumer visual engagement on impulse buying behaviour.
- To test the mediating role of consumer visual engagement in the association between AI-driven visual merchandising components and impulse buying habit.

1.5 Significance of the Study

Firstly, this study is significant in that it looks into the influence of AI-driven visual merchandising effect on impulse buying habit in a supermarket setting. Here, the scenarios of changing the face of the shelves by AI, employing digital screens, and AI-driven product suggestions that visually attract the consumer and, at the same time, encourage the consumer to make an unplanned purchase by visual engagement are illustrated.

Moreover, this paper relates the different strands of traditional visual merchandising, impulse buying theories, and the contemporary AI-initiated retail environments. From their point of view, consumer visual engagement is the principal internal element that links the AI-generated visual stimuli and the decision-making process for a purchase at the psychological level. What is more, from the perspective of the application, such results give a completely clear instruction to supermarket managers and retailers for creating AI-enabled visual merchandising strategies that not only lead to customer satisfaction but also to revenue growth. At the same time, this study offers a clear conceptual model for the exploration of shopper behaviour in tech-enabled physical store environments.

2. Review Of Literature

2.1 Visual Merchandising

Visual Merchandising is essentially the way products and the store environment are visually displayed to customers such that they not only get attracted to the store but also purchase the items on display(Law et al., 2012; P. Mehta & K. Chugan, 2013). It involves the use of the store architecture, lighting, colours, promotional items, product displays, and even digital screens, with all these elements together forming the overall impression a customer gets from the store(Dennis et al., 2014; Kerfoot et al., 2003). Properly done visual merchandising does wonders for the overall appearance of the store and at the same time, it increases product exposure making it more convenient for customers to pick up products and navigate through the store(Grewal et al., 2017; Kerfoot et al., 2003; Turley & Milliman, 2000b). Consequently, customers will most likely decide to stay longer in the store and the probability of them making a purchase is considerably increased(Donovan, 1982; Julie Baker, 1992).

In the past, traditional visual merchandising methods were primarily focused on stationary factors such as standard shelf arrangements and printed advertisement, which were usually targeting to consumer appeal(Bitner, 1992; Kerfoot et al., 2003; Turley & Milliman, 2000b). However, modern visual merchandising means the use of digital technologies such as electronic displays, interactive screens, and data-driven layouts that allow retailers to create more attractive and flexible store areas, which can mirror the constantly changing consumer preferences and shopping patterns(Grewal et al., 2017; Pantano & Gandini, 2017; Shankar, 2018).

2.2 Impulse purchase Behaviour

Impulse purchase behaviour is characterized as a purchasing decision that was done unplanned and hence, usually, it is regarded as a spontaneous one(Kacen & Lee, 2002; Verplanken & Herabadi, 2001). At the beginning, the research focused only on the irrational side of impulse purchase, but currently, a number of studies have

demonstrated that it is a multifaceted behaviour that is under the influence of both the cognitive and emotional components(Beatty & Ferrell, 1998; Rook, 1987). Consumers may receive an impulsive signal from the immediate environment, which can result in a sudden desire to buy something(Beatty & Ferrell, 1998; Donovan, 1982; Rook, 1987; Verplanken & Herabadi, 2001).

Cognitive influences may be product familiarity, perceived value, and promotional information. Whereas, customer emotion can be the different feelings like excitement, happiness, and curiosity. Generally, emotional reactions dominate impulse buying especially when the environment looks very attractive(Beatty & Ferrell, 1998; Hausman, 2000). Furthermore, situational and environmental factors like store atmosphere, time pressure, product placement, and sensory cues are also the main elements in deciding impulse purchases which in turn makes supermarkets an ideal place for such behaviour research(Kollat & Willett, 1967; Turley & Milliman, 2000b).

2.3 Consumer Emotional Response

Customer emotional response refers to customer's affective states they experience as they come into contact with a retail environment. One of the most popular models of consumer emotional responses in retail settings is the Pleasure-Arousal-Dominance (PAD) model(Donovan, 1982; Julie Baker, 1992; Vieira, 2013). In the model, pleasure is equated with the positive feelings, joy, or contentment; arousal is associated with the state of being excited, stimulated, or energized; dominant is the feeling of being in control(Russell & Mehrabian, 1977).

Elements of the store atmosphere like lighting, music, colours, and visual displays influence these emotional states greatly(Jaini et al., 2022; Saiteja Matam et al., 2025). A nice and exciting environment can cause the customer to experience more positive emotions, stay longer at the store, and buy more things that hadn't planned(Osama Rachmad Ramadhani & Muhammad Rizky Ramadhan, 2025; Putu Yuan Barananda, 2024). Thus, emotional reactions turn to be an important channel for the effects of store stimuli on consumer behaviour.

2.4 Visual Engagement and Attention

Visual engagement refers basically to the extend to which consumers see and are able to interpret the images that are in the showroom(Mohan et al., 2013; Riswanto et al., 2024a). Visual attention theory asserts that when individuals are subjected to a wide range of images, they tend to choose the ones that are most alluring and connected to their areas of interests. Such attributes as motion, contrast, and light intensity are some of the eye-capturing attributes(Krüger et al., 2016; Peker et al., 2021).

Visual stimuli and motion images happen to be among the stimuli that attract consumer attention to a great extent(Kim & Lee, 2021; Yuan et al., 2026). Currently, the ever-increasing trend of digital and interactive displays presents a good opportunity to retailers to create personalized shopping experiences for customers(Scholdra et al., 2023). Consequently, attention-grabbing and influencing the purchasing decision of the consumer also tend to happen due to this particular stimulation.

2.5 Technology and AI in Retail

The retail industry has seen the integration of AI make possible the implementation of a data-driven and targeted merchandising program. The AI-assisted form of personalization helps the retail companies make adjustments to their visual displays, layouts, and recommendations depending on the consumers' behaviour(Mubbashir Shaikh & Kamil Shaikh, 2025; Nguyen et al., 2022). The smart displays and screens are also adjusting their displays depending on the retail scenarios and consumer profiles(Merfeld et al., 2025; Riegger et al., 2021).

The application of AI technology with shelves helps in managing shelves in real-time and making personal recommendations to customers (Merfeld et al., 2025; Vidushi Sharma, 2022). Customers, in most cases, are open to the application of AI technology, which comes along with aspects of convenience and relevance, but very few studies have been conducted to understand the impacts of such technologies on the customer during their visit to supermarkets (Kanapathipillai et al., 2024).

2.6 Research Gap

Despite the increasing adoption of AI technology among retailers, there is a notable gap exists in the research conducted on AI-based dynamic visual merchandising. The available research papers mostly focus on the conventional merchandising aspects, thereby making no contribution whatsoever to this adaptive, algorithm-based point of sale visual merchandising. In addition, there are no empirical studies to support consumer micro-behavioural visual interactions of dynamic digital stimuli.

Further, most of the research has only focused on online shopping or fashion websites. This means that FMCG supermarkets are yet to be extensively studied. Moreover, the study of how consumer visual engagement influences impulse buying behaviour in relation to AI-powered visual cues has also not been sufficient. In conclusion, few studies have incorporated the comprehensive model which combines all aspects of AI-powered merchandising.

To close these gaps, this study creates an integrated AI-driven visual merchandising model and verifies it empirically through Structural Equation Modelling (SEM). Thus, it adds to the understanding on both visual merchandising and impulse buying in the context of AI-enabled supermarket retailing.

3. Proposed Conceptual Model And Hypotheses

Both the research and the proposed solution are built on the foundation of the S-O-R model, coupled with visual attention and consumer behaviour theories. The proposed model S-O-R asserts that the external stimuli in a retail setting impact a consumer's inner psychological state, which further determines a consumer's behavioural responses. In the proposed research, AI-based dynamic visual merchandising factors, such as the overall quality of AI-generated visual displays, dynamic shelf layout customization, digital signage stimuli, and overall, AI-based product recommendations, serve as the principal stimuli. Additionally, these stimuli are rich and dynamic, aiming at captivating shoppers' attention and augmenting the overall shopping experience in supermarkets.

The organism side of the theory is captured using consumer visual engagement. With higher visual engagement, the cognitive and emotional processing of consumers would enhance their reactions to the in-store stimuli. As a result, the impulse buying behaviour emerges, which entails unplanned and impulse buying. On the basis of visual attention theory, the proposed theory indicates that dynamic and personalized visual stimuli would be more useful for attention-grabbing as well as impulse buying. Hence, consumer visual engagement acts as a mediating variable to connect AI-driven visual merchandising with impulse buying behaviour in the grocery environment.

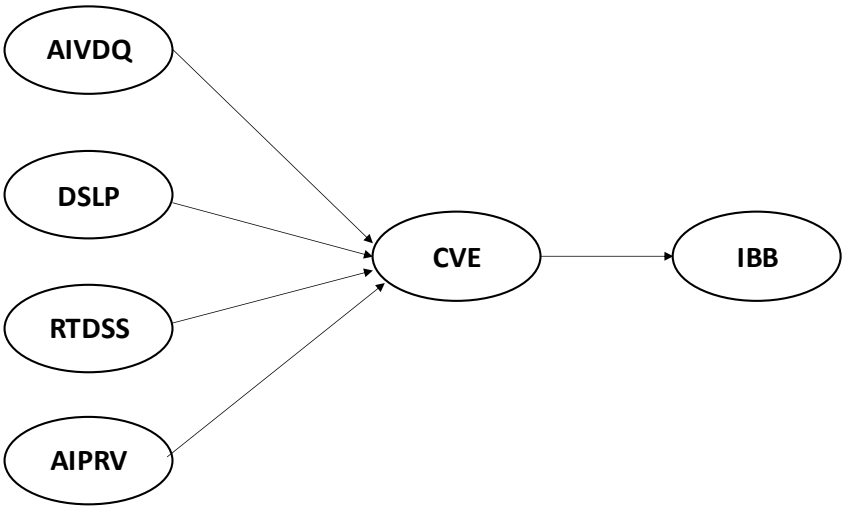


Figure1 – Proposed Conceptual Model

3.1 Consumer Visual Engagement as a Response to AI-Enabled Visual Merchandising in Supermarkets

One of the main premises of the S–O–R theory-based research in the field of retail environments is that consumers' internal mental and affective states are the result of the influence of store atmospherics and visual cues as external stimuli, which then determine behavioural responses(Baker et al., 2002; Donovan, 1982; Turley & Milliman, 2000a). In AI-enabled supermarket environments, artificial intelligence-powered visual merchandising components—such as AI-generated visuals, dynamic personalized shelf layout, instant digital signage, and AI-based product recommendation visibility—make the in-store stimuli more noticeable, relevant, and attractive(Begum et al., 2023; Kulkarni & Bansal, 2023). The use of these visual cues powered by AI is intended to draw the attention of the shoppers, making it easier for them to comprehend the information, and emotionally engage them, which consequently leads to consumers visually engaging with the environment of the store (Riswanto et al., 2024b). Thus, it is reasonable to assume that the AI-powered visual merchandising component will have a positive effect on consumers' visual engagement with supermarkets.

H1: AI-driven visual merchandising elements have a significant positive effect on consumers' visual engagement in supermarkets.

3.2 The Influence of Consumer Visual Engagement on Impulse Buying Behaviour

Consumer visual engagement is described as an internal organismic state in which one is highly attentive, cognitively involved, and emotionally connected to in-store visual stimuli(Jaini et al., 2022; Kim & Lee, 2021). Previous research in the area of retail and consumer behavior has indicated that consumers who are visually engaged are likely to experience spontaneous purchase urges as they are more exposed to product cues, think less, and experience higher emotions. (Dr. Manchala Veera Krishna et al., 2025; Jaini et al., 2022). In supermarket settings, very visually engaged consumers could be those who make their decisions quickly and become more prone to unplanned purchases, thus encouraging them to indulge in impulse buying behaviour(Jaini et al., 2022; Liliyan, 2024). Therefore, it is anticipated that the greater the consumer visual engagement, the more the impulse buying behaviour will be exacerbated.

H2: Consumer visual engagement has a significant positive impact on impulse buying behaviour.

3.3 Consumer Visual Engagement as a Mediator Through Which In-Store Visual Marketing Strategies Powered by AI Lead to Impulse Buying in Supermarkets

On the basis of the S-O-R framework, consumer visual engagement has been identified as a crucial internal psychological factor that acts as a mediator between the behavioral outcomes of AI-powered visual merchandising innovation and impulse buying. (Chaudhuri & Holbrook, 2001; Jaini et al., 2022; Kexin & Teo, 2023). AI-powered visual merchandising has the potential to significantly enhance the quality and relevance of in-store visual stimuli, but its relationship with impulse buying is not direct as it is conditional on the internal visual engagement of consumers (Jaini et al., 2022). Consumer visual engagement, which is defined as the focusing of attention and emotional engagement, acts as a mediator through which the relationship between AI-powered visual merchandising and impulse buying behaviour is transmitted (Ali & Sukendra, 2020; Jaini et al., 2022). Therefore, it is hypothesised that consumer visual engagement will mediate the relationship between AI-powered visual merchandising variables and impulse buying behaviour in supermarkets.

H3: Consumer visual engagement mediates the relationship between AI-powered visual merchandising variables and impulse buying behaviour in supermarkets

4. Methodology

This study adopts a quantitative methodology and a descriptive and causal research design to investigate associations the role of visual merchandising in driving impulse buying behaviour through the use of AI. The research utilized a structured questionnaire to gather information from supermarket shoppers who have been exposed to visual merchandising elements through AI. The non-probability sampling technique was used in

collecting information from a targeted population of customers in urban supermarkets that incorporate digital signage and shelf management systems through AI technology. The total sample targeted was 305 participants. All questions utilized a Likert 5-point scale.

The data was processed using the AMOS and SPSS software packages. The data was also analysed using the mean description technique. Alpha coefficient was utilized in evaluating the scales' reliability. CFA-based validation was also applied to test model's validity. Results were then utilized in the field of research by providing precise definitions and validation. In the research, confidentiality and permission were maintained. This research will make a theoretical and practical impact by expanding research on visual merchandising on AI retailing and by helping the managers of the supermarket develop and design effective AI-driven display systems that promote impulse buying.

5. Data Analysis And Interpretation

5.1 Reliability and Measurement Validity

Table 1: Reliability and Measurement Validity Metrics for Measured Constructs

Latent Construct	Indicators (n)	α (Internal Consistency)	CR	AVE	Shared Variance (Max)	Shared Variance (Avg)
AI-Generated Visual Display Quality	5	0.934	0.934	0.741	0.197	0.071
Dynamic Shelf Layout Personalization	5	0.952	0.953	0.801	0.126	0.040
Real Time Digital Signage Stimuli	5	0.949	0.949	0.789	0.154	0.046
AI Based Product Recommendation Visibility	5	0.945	0.946	0.777	0.255	0.082
Consumer Visual Engagement	5	0.949	0.949	0.788	0.535	0.253
Impulse Buying Behaviour	5	0.927	0.930	0.726	0.535	0.191

CFA was conducted to assess the quality of the measurement model. All observed variables had very high and significant loadings on their corresponding constructs (standardized loadings = 0.838-0.913; $p < 0.001$), ensuring indicator reliability. The squared multiple correlations also reveal that a large amount of variance in the Each of these constructs is explained by their corresponding constructs, ensuring convergent validity.

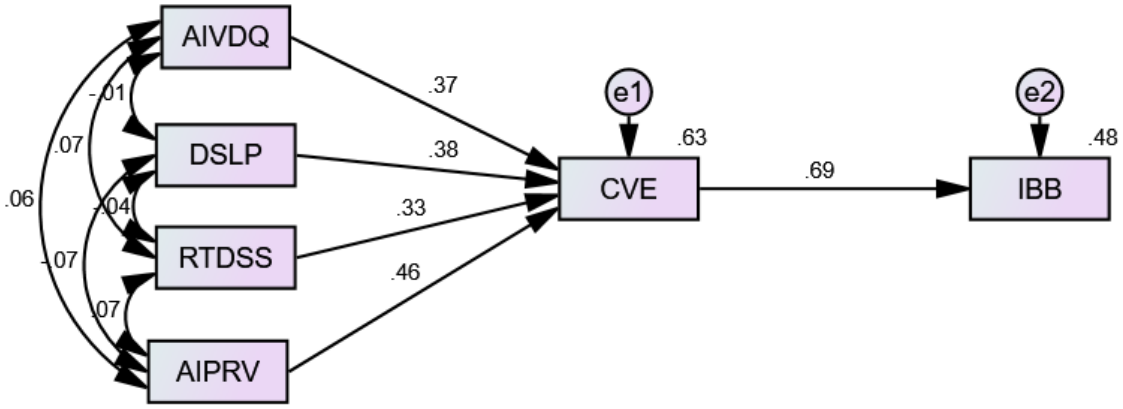
The consistency of the latent constructs is supported by the strong standardized values and eigenvalues. The correlation values among constructs were positive and significant when hypothesized and were below the critical values, and hence, they were distinct constructs. Although the correlation value between consumer visual engagement and impulse buying is moderately strong, the results from other discriminant validity tests were satisfactory.

The global fit of the overall measurement model is satisfactory, and this has been evident from a variety of indices of goodness of fit ($\chi^2/df = 1.216$, CFI = 0.990, TLI = 0.989, RMSEA = 0.027, and GFI = 0.907), and each of these indices is far above the cut-off standards.

To sum up, the findings have proved the measurement model to be well-admitted reliability, convergent validity, discriminant validity, and the model fit, ensuring a good basis for further structural model analysis.

5.2 Structural Equation Modelling (SEM)

Figure 1: Path Analysis Using Structural Equation Modelling



The fit indices for the overall model demonstrate excellent alignment between the hypothesized model and the empirical data. The χ^2/df ratio (1.336) is well below the recommended threshold. Incremental fit indices such as CFI (0.997), TLI (0.990), and IFI (0.997) exceed recommended cut-off values. The RMSEA value of 0.033 with a non-significant PCLOSE (0.580) further confirms a close model fit. Additionally, GFI (0.994) and AGFI (0.970) indicate strong absolute fit.

5.3 Hypothesis Test Results

Table 2. Standardized Path Coefficients and Hypothesis Decisions

Hypothesis	Path	Standardized estimate (β)	C.R.	Sign	Decision
H1a	Dynamic shelf layout personalization → Consumer visual engagement	0.380	10.838	***	Supported
H1b	Real-time digital signage stimuli → Consumer visual engagement	0.332	9.446	***	Supported
H1c	AI-generated visual display quality → Consumer visual engagement	0.372	10.578	***	Supported
H1d	AI-based product recommendation visibility → Consumer visual engagement	0.458	12.996	***	Supported
H2	Consumer visual engagement → Impulse buying behaviour	0.689	16.589	***	Supported
H3	AI-driven visual merchandising → Consumer visual engagement → Impulse buying behaviour	—	—	***	Supported (full mediation)

Standardized estimates (β) are reported. *** denotes significance at $p < 0.001$. Mediation (H3) is established based on significant indirect effects and the absence of direct effects from AI-driven visual merchandising elements to impulse buying behaviour. The model explains 62.8% of the variance in consumer visual engagement and 47.5% of the variance in impulse buying behaviour.

Overall, the findings validate the proposed conceptual framework and demonstrate that AI-driven dynamic visual merchandising enhances impulse buying behaviour primarily by increasing consumer visual engagement. Among the AI elements, AI-based product recommendation visibility emerges as the most influential driver of visual engagement, followed by dynamic shelf personalization, visual display quality, and real-time digital signage. These results provide strong empirical support for integrating AI-enabled visual strategies in supermarket environments to stimulate consumer engagement and impulse purchases.

6. Discussion

The findings of this research offer a solid factual basis for the effectiveness of artificial intelligence-based dynamic visual merchandising in changing consumers' impulse buying behaviour through the visual engagement of consumers in a supermarket (Jaini et al., 2022; Kim & Lee, 2021). AI-powered merchandising components - AI-designed high-quality visual display, dynamic shelf layout personalization, real-time digital signage stimuli, and AI-based product recommendation visibility - consumption positively and significantly affects visual engagement of consumers. This indicates that visually rich, highly adaptive and data-driven retail environments are very effective in attracting shopper attention and increasing their engagement at the store. Out of these factors, visual engagement through AI-based product recommendation visibility was found to be the single most important factor, hence, the emphasis on personalized, well-highlighted recommendations in capturing the attention of consumers.

According to the S–O–R model, the findings reflect the idea that AI-generated displays (stimulus) influence consumers' internal psychological state in the form of visual engagement (organism), which then leads to impulse buying response. It was predicted that visual consumer engagement had a substantial favourable effect on unplanned buying, and it fully mediated the relationship between AI-driven visual merchandising elements and impulse buying behaviour. This finding helps to broaden the impulse buying and visual merchandising literature by identifying visual engagement as an essential psychological mechanism through which the use of advanced retail technologies in brick-and-mortar stores leads to consumers' impulse purchasing decisions.

6.1 Practical Implications

The research results are helpful in guiding the implementation of AI-driven visual merchandising in supermarkets. Major findings of this study is that, among other things, AI-generated visuals, dynamic shelf layout personalization, real-time digital signage, and AI product recommendation visibility have a major influence on consumer visual engagement which subsequently leads to impulse buying behaviour.

Taking a really practical angle, retailers can turn their stores into a really powerful sales machine for converting shoppers into buyers, simply by changing from static merchandising local practices to adaptive, data-driven visual systems that correspond to real-time consumer behaviour, store traffic and other local contextual factors.

It is mainly from the mediating role of consumer visual engagement that the effect originates; thus, it indicates that a special focus should be on store designs that are visually very attractive and stimulating so that the product discovery process can be very easily facilitated and the customers can also be attracted for spontaneous buying. Furthermore, adding visually striking AI-based recommendations, interactive digital signage, and dynamically optimized shelf arrangements can encourage shopper involvement, increase dwell time, and improve purchase conversion, thus providing a practical guide for supermarkets that are willing to bring artificial intelligence into their physical stores.

6.2 Managerial Implications

From the managerial point, these results highlight how strategically AI-enabled visual merchandising can be leveraged for creating value rather than just being a technological update. A significant effect of AI-driven product recommendation visibility and changing visual elements on customer engagement reveal that managers should buy AI systems that allow personalization and visual clarity improvement in the store. Retail managers are incited to harness AI-driven merchandising insights to steer planning and decision-making at the highest level so that they become consistent with overall marketing and customer experience goals.

In addition, successful managerial leveraging requires dividing these activities into segments that will regularly monitor how consumers react to AI-enabled visuals, holding training sessions for staff to get familiar with AI-generated insights, and doing proper content management of digital signage to avoid sensory overload. By adopting a data-oriented and customer-focused strategy, managers may utilize AI-based visual merchandising not only to augment impulse purchases but also to unlock the entire capacity of the store and thus, stay ahead of the competitors in the retail market that is continuously becoming more and more tech-oriented.

7. Conclusion

This research is a contribution to the ongoing discussion of AI-enabled retailing. The study has empirically proved the impact of visual merchandising, which is based on dynamic changes generated by AI, on buying behaviour through visual engagement of consumers. Even though the study has theoretically and managerially implied value, the research has some limitations. Non-probability sampling and the use of self-reported data constrain the generalizability of the results to the entire population, while focusing only on supermarket environments narrows the applicability of the results. Future studies can address these limitations by employing longitudinal or experimental methodologies, incorporating objective behavioural metrics such as eye-tracking, and testing the model in different retail formats and cultural contexts. Despite its limitations, the paper presents a robust consumer behaviour model in AI-augmented physical retail settings and serves as a useful point of departure for those interested in exploring this new area further.

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