

Research Article

Value Over Technology? Examining the Roles of Perceived Value and Interactive Digital Innovation in Driving Consumer Behavior and Digital Engagement in Retail Markets

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Abstract: This study seeks to investigate a consumer behavior model by evaluating the impact of interactive technology-driven digital innovation and perceived value on digital engagement, with customer behavior serving as a mediating variable within the retail sector in Jambi Province. A quantitative research design utilized a survey method with 150 retail consumers as participants. We used Structural Equation Modeling–Partial Least Squares (SEM-PLS) to look at both the measurement and structural models. The findings of the measurement model show that all indicators match the requirements for convergent validity. The outer loading values are all over 0.70, which means that the construct is reliable and valid. The evaluation of the structural model indicates that perceived value exerts a positive and significant influence on both consumer behavior and digital engagement. Also, how people act as consumers has a big effect on how they contact with and participate in digital media. This means that people who think retail services are more valuable are more likely to interact with and participate in digital media. Nevertheless, interactive technology-driven digital innovation does not exhibit a substantial direct impact on customer behavior or digital engagement. These findings suggest that value perception is more influential than technology innovation in determining consumer responses inside digital retail environments. This research enhances the body of knowledge regarding consumer behavior and digital marketing by highlighting the strategic significance of perceived value in augmenting consumer involvement within digital retail contexts.

Keywords: Consumer Behavior; Digital Engagement; Digital Innovation; Interactive Technology; Perceived Value.

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1. Introduction

The rapid growth of digital technology has brought about profound changes in marketing strategies, particularly within the retail sector. Retail companies are increasingly utilizing interactive, technology-driven innovations to enhance customer engagement (Safitri, 2025). Tools such as mobile applications, chatbots, augmented reality, personalized recommendation systems, and interactive social media platforms are now central to creating more dynamic, responsive, and participatory experiences for customers (S. Li et al., 2023). These technologies enable businesses to interact with consumers in real time, offering tailored experiences that meet their specific preferences and needs (Radicic & Petković, 2023). In Jambi Province, the retail sector faces intense competition, prompting companies to move beyond traditional marketing approaches. To remain competitive and attract more customers, retailers must incorporate digital solutions that not only capture consumer attention but also influence purchasing decisions. By leveraging these technologies, businesses can build stronger connections with their customers, enhance loyalty, and ultimately drive sales growth in an increasingly digital marketplace.



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Interactive, technology-based digital innovations are widely recognized for their ability to create more engaging customer experiences and enhance the perceived value among consumers (Díaz-Arancibia et al., 2024). Perceived value refers to the consumer's assessment of the benefits they receive from a product or service in relation to the sacrifices they make, including price, time, and effort (Alavijeh, 2022). When consumers perceive a high value in their purchase, they are more likely to display positive behaviors such as repurchase intentions, brand loyalty, and recommendations to others. As the perceived value increases, customers feel that the benefits they gain outweigh the costs, fostering a deeper connection with the brand and promoting long-term consumer retention (Setiawan et al., 2025). Therefore, integrating interactive digital technologies can significantly improve how consumers perceive the value of a product or service, thereby enhancing overall customer satisfaction and driving business success (Nasib et al., 2025).

In today's digital era, consumer behavior is shaped not only by technological innovations and perceived value but also by digital engagement, which plays a crucial role in mediating this relationship (Matosas-López, 2024). Digital engagement refers to the extent of participation, interaction, and emotional connection that consumers have with a company's digital platforms (Khandelwal & Kapoor, 2024). Consumers who actively engage by commenting, leaving reviews, interacting on social media, or using interactive features tend to form stronger bonds with brands (Kumar et al., 2024). This heightened engagement fosters a deeper sense of loyalty and leads to more positive consumption behaviors, such as increased repurchase intentions and brand advocacy (Hou et al., 2025). As a result, businesses that encourage and facilitate meaningful digital engagement can build long-term relationships with consumers, ultimately driving customer satisfaction and enhancing brand loyalty (Andini et al., 2025). Digital engagement, therefore, has become an essential factor in influencing consumer behavior and ensuring sustained business success in a highly competitive market (Sri Andini et al., 2025).

Research conducted by (Gaglio et al., 2022) shows that digital innovation in the form of interactive applications and artificial intelligence based recommendation systems significantly influences the increase in consumer engagement in the modern retail sector. The study found that the higher the level of technological interactivity implemented by companies, the greater the participation and attachment of consumers to the brand. Another study by (G. D. Sharma et al., 2024) highlights the role of digital engagement as a mediating variable between digital marketing strategies and consumer behavior. The SEM analysis results indicate that digital engagement strengthens the relationship between technological innovation and purchase decisions, suggesting that digital engagement acts as a bridge connecting companies' digital strategies with consumer behavioral responses.

While numerous studies have explored the impact of digital innovation and perceived value on consumer behavior, research focusing on digital engagement as a mediating variable, particularly within the context of retail companies in Jambi Province, remains relatively scarce. Therefore, this study is crucial in examining how digital engagement mediates the relationship between interactive technology-based digital innovations and perceived value in shaping consumer behavior. The findings of this research are expected to offer valuable theoretical contributions to the growing field of digital marketing literature, enhancing our understanding of consumer behavior in the digital age. Additionally, the study will provide practical insights for retail companies, helping them design more effective and sustainable marketing strategies that leverage digital engagement to drive consumer loyalty and business success. By addressing this gap, the study aims to offer actionable recommendations for companies in Jambi Province and similar markets.

2. Literature Review

2.1 Interactive Technology Based Digital Innovation

Interactive technology-based digital innovation involves the adoption of digital technologies that enable two-way interactions between companies and consumers (Safitri, 2025). These innovations include the use of interactive social media, AI-powered chatbots, mobile applications, augmented reality, personalized recommendation systems, and omnichannel platforms, which allow for more responsive and real-time customer experiences (Faruque et al., 2024). In digital marketing, these innovations serve not only as communication tools but also as means of fostering closer relationships with consumers (Wanajma, 2024). The Diffusion of Innovation Theory suggests that the adoption of new technologies influences individuals' attitudes and behaviors, particularly when these

technologies offer convenience, efficiency, and enhanced user experiences. As retail companies implement higher levels of digital innovation, they have a greater chance of generating positive consumer responses (Ahmad & Pandey, 2024). The ongoing digital transformation in the retail sector drives businesses to adopt interactive technologies such as AI, big data analytics, augmented reality, and omnichannel systems to offer personalized, responsive experiences (X. Li et al., 2024). Digital transformation in marketing focuses not just on technology adoption but also on creating customer value through integrated digital interactions (Huang, 2025). Recent studies show that interactive technologies improve customer experience quality and strengthen brand relationships (Radicic & Petković, 2023). Thus, interactive technology-based digital innovation plays a crucial role in shaping consumer behavior in the digital economy (Sechele et al., 2024).

2.2 Perceived Value

Perceived value refers to consumers' subjective assessment of the benefits they receive relative to the sacrifices they make (Meeprom, 2021). Rooted in value-based marketing theory, this concept highlights that purchasing decisions are driven by consumers' perceptions of functional, emotional, social, and economic value. In the digital environment, perceived value is shaped by factors such as ease of access to information, service speed, price transparency, user experience, and the quality of digital interactions (Huo et al., 2025). Consumers who perceive high value from a product or service are more likely to exhibit behaviors like repurchase intention, loyalty, and positive recommendations (Vinh, 2023). As such, perceived value plays a critical role in shaping consumer behavior in the digital-based retail industry (Wijaya, 2021). Furthermore, it is a key factor influencing purchasing decisions in the digital space, encompassing not just functional and economic value but also emotional and social value derived from interactive experiences (Alimin et al., 2025). Recent research suggests that perceived value significantly impacts purchase intention and customer loyalty on digital retail platforms (Wakhyuni et al., 2024). Thus, perceived value is a pivotal variable in explaining consumer behavior formation in the digital marketplace (Tirtayasa et al., 2024).

2.3 Digital Engagement

Digital engagement refers to the degree of involvement, participation, and active interaction that consumers have with a brand through digital platforms (Kumar et al., 2024). This concept goes beyond simple transactions, encompassing cognitive, emotional, and behavioral aspects (Kini et al., 2024). In digital marketing, digital engagement is demonstrated through activities like providing reviews, liking and sharing content, participating in online discussions, and using interactive features offered by companies (Wimalasena & Jayasinghe, 2024). According to the Customer Engagement Theory, high levels of engagement can foster long-term relationships between consumers and companies (AlFraihat et al., 2025). Digital engagement also serves as a mediating variable, bridging the impact of digital innovation and perceived value on consumer behavior (Lin & Huang, 2024). When consumers feel actively involved in a brand's digital ecosystem, they are more likely to exhibit positive consumption behaviors (Sarkis et al., 2025). As a strategic concept in modern marketing literature, digital engagement involves cognitive, emotional, and behavioral dimensions of consumer-brand interactions (Priani, 2025). Studies indicate that digital engagement acts as a mediating factor that connects technological innovation with consumer behavioral responses (Hardiansyah et al., 2025). Consumers who engage more deeply with brands tend to show stronger repurchase intentions and loyalty (Chanoago et al., 2025).

2.4 Consumer Behavior

Consumer behavior refers to the study of how individuals or groups select, purchase, use, and evaluate products or services to fulfill their needs and desires (Q. Liu & Wang, 2023). In the digital age, consumer behavior extends beyond purchasing decisions to include online activities such as information searches, social media interactions, digital reviews, and brand advocacy (Amelia & Tambunan, 2024). According to the Theory of Planned Behavior, behavior is influenced by attitudes, subjective norms, and individuals' perceived behavioral control (Tanady et al., 2025). In the context of digital retail, consumer behavior is reflected through purchase intention, purchasing decisions, loyalty, and word of mouth (Lubis et al., 2022). Thus, digital innovation strategies and value creation are essential in shaping consumer behavior that benefits companies (Amelia et al., 2026). The Stimulus-Organism-Response (SOR) theory is frequently applied in digital marketing research to explain relationships among variables (Afendi et al., 2024). The SOR model posits that external stimuli, such as

digital innovation and perceived value (stimulus), influence internal consumer states, such as digital engagement (organism), which ultimately lead to behavioral responses (response) (Cheng, 2022).

3. Method

This study adopts a quantitative cross-sectional survey design to investigate the relationships among the proposed constructs. Partial Least Squares Structural Equation Modeling (PLS-SEM), using SmartPLS 4, was chosen due to its predictive capability, ability to manage complex models, and robustness in dealing with non-normal data distributions (Hair et al., 2021). The study’s population comprised 150 residents of Jambi Province in 2026, with a census sampling approach used to include all members of the population. This approach eliminates sampling error and maximizes statistical power, providing a comprehensive representation of the target population.

Data were collected using a self-administered structured questionnaire measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The items were adapted from validated scales and reviewed by experts for contextual relevance (Tomy & Pardede, 2020). The questionnaire covered constructs related to the study’s objectives. Data collection occurred over two weeks, facilitated via institutional email and official student group communication channels, ensuring anonymity and voluntary participation. To mitigate Common Method Bias (CMB), procedural remedies such as randomizing item order, using neutral wording, and separating construct sections were implemented. Statistical checks, including full collinearity variance inflation factor ($VIF < 3.3$) and Harman’s single-factor test, were conducted to ensure data validity and reliability.

4. Results and Discussion

Data Analysis

Table 1. Respondents Based on Gender.

Gender	Female	93	respondents
	Male	57	respondents

Based on the table of respondents by gender, it can be seen that the number of female respondents is higher than that of male respondents. Of the total respondents who participated in this study, 93 were female, while 57 were male. Thus, it can be concluded that the majority of respondents in this study are female. This indicates that female consumers show a higher level of participation in research related to consumer behavior in retail companies in Jambi Province.

Measurement Model Analysis – Outer Loadings

Table 2. Outer Loading.

	DE	IP	PK	PV
DE1	0.816			
DE2	0.830			
DE3	0.817			
DE4	0.888			
DE5	0.865			
IP1		0.861		
IP2		0.906		
IP3		0.890		
IP4		0.873		

IP5	0.841	
PK1		0.823
PK2		0.845
PK3		0.888
PK4		0.768
PK5		0.732
PV1		0.878
PV2		0.872
PV3		0.878
PV4		0.868
PV5		0.775

The Outer Loadings Matrix Table presents the factor loading values for each indicator associated with the measured constructs: Digital Engagement (DE), Interactive Technology-Based Digital Innovation (IP), Consumer Behavior (PK), and Perceived Value (PV). The outer loading values are used to assess convergent validity, with an indicator considered valid if it has a loading value greater than 0.70.

For the Digital Engagement (DE) construct, all indicators show high outer loading values: DE1 (0.816), DE2 (0.830), DE3 (0.817), DE4 (0.888), and DE5 (0.865), suggesting that these indicators accurately represent the Digital Engagement construct. Similarly, the Interactive Technology-Based Digital Innovation (IP) construct displays strong outer loading values: IP1 (0.861), IP2 (0.906), IP3 (0.890), IP4 (0.873), and IP5 (0.841). All values exceed the 0.70 threshold, confirming the validity of these indicators for the IP variable.

For the Consumer Behavior (PK) construct, the outer loading values are PK1 (0.823), PK2 (0.845), PK3 (0.888), PK4 (0.768), and PK5 (0.732). Although PK4 and PK5 have slightly lower values, they remain above the 0.70 threshold, ensuring convergent validity. Lastly, the Perceived Value (PV) construct shows outer loading values of PV1 (0.878), PV2 (0.872), PV3 (0.878), PV4 (0.868), and PV5 (0.775), all of which are above the minimum value of 0.70, indicating that these indicators are valid representations of the Perceived Value construct.

Tabel 3. R-Square.

	R-square	R-square adjusted
Digital Engagement	0.721	0.715

Based on Table 3 (R-Square), it can be seen that the R-square value for the Digital Engagement variable is 0.721, while the adjusted R-square value is 0.715. The R-square value indicates that the variables Interactive Technology-Based Digital Innovation and Perceived Value are able to explain 72.1% of the variance in Digital Engagement, while the remaining 27.9% is explained by other variables outside the research model. An R-square value of 0.721 indicates that the research model has substantial explanatory power in predicting the Digital Engagement variable. Thus, it can be concluded that Interactive Technology-Based Digital Innovation and Perceived Value have a considerable influence on Digital Engagement in retail companies in Jambi Province.

Table 4. Path Coefficients.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Information
IP -> DE	0.109	0.119	0.076	1.436	0.151	Not Significant
IP -> PK	0.137	0.145	0.074	1.855	0.064	Not Significant
PK -> DE	0.589	0.583	0.074	8.004	0	Significant
PV -> DE	0.232	0.227	0.095	2.448	0.014	Significant
PV -> PK	0.673	0.663	0.072	9.392	0	Significant

Discussion

The Influence of Interactive Technology-Based Digital Innovation on Digital Engagement

The findings of this study demonstrate that Interactive Technology-Based Digital Innovation (IP) does not have a substantial effect on Digital Engagement (DE) within retail enterprises. Digital innovation in marketing need to facilitate interactive experiences that enhance consumer engagement (Safitri, 2025). But the success of this kind of invention depends a lot on how well people embrace and use the technology (S. Li et al., 2023). If customers aren't completely involved or don't grasp how the technology works, it won't have much of an effect on digital engagement. This discovery aligns with prior studies indicating that digital technology in retail does not consistently enhance consumer involvement, particularly when the technology is not effectively exploited by consumers (Lee & Kim, 2024).

Moreover, this research shown that Consumer Behavior (CB) exerts a substantial favorable impact on Digital Engagement (DE) (Patricio et al., 2022). Consumers that show more interest in and interact with products or services are more likely to be active on digital platforms (Salamzadeh et al., 2022). Positive consumer behaviors, including interest, attention, and participation, can enhance their engagement with brands (Madz & Valeri, 2026). Consumer actions, like actively seeking information and giving feedback through digital media, can boost the amount of digital engagement among retail customers (Aditi et al., 2022).

Based on these results, managers of retail companies need to understand that just using new technology isn't enough to get customers more involved. For example, companies should give clear instructions, training, or information that helps people use digital platforms more fully. This is because they need to make sure that people understand and use these technologies to their maximum potential. Companies also need to work on getting customers to act in a positive way, like by offering incentives or promotions that encourage people to communicate with each other on digital platforms. Companies can enhance their overall performance by better regulating how consumers act online. This can lead to stronger relationships with customers and higher levels of digital engagement.

The Influence of Interactive Technology-Based Digital Innovation on Consumer Behavior

The findings of this study demonstrate that interactive technology-driven digital innovation does not substantially affect customer behavior. There are many things that affect how people act as consumers, including perceived value, customer experience, product quality, and social and psychological aspects (Lukita & Rawat, 2026). Digital innovation in retail does not invariably alter consumer behavior unless consumers have realized tangible benefits from the technology (Salqaura & Nasib, 2025). In other words, if the technology doesn't have clear and real benefit, it won't impact how people act in a big way (Yu, 2025).

This research indicates that customer behavior exerts a favorable and considerable impact on digital engagement (X. Li et al., 2024). This means that people who are really

interested in a product or service and use it a lot are more likely to be active on digital platforms. Positive behaviors by customers, like interest, attentiveness, and participation, can make them more interested in a brand or company (Wanajma, 2024). When retail customers actively look for information and give comments through digital media, it can greatly boost their level of digital engagement (Effendi et al., 2023). People's conduct when they are online can lead to more interaction, which can in turn improve the relationship between companies and customers and boost business results (Tirtayasa et al., 2024).

These results show that retail businesses shouldn't just rely on new technology to transform how people shop. Instead, they need to focus on making sure that these technologies have clear and useful benefits for consumers so that as many people as possible use them. Companies could also encourage good behaviors among customers, like looking for information and using digital platforms. Companies may improve their engagement with digital platforms by getting more people to use them and connect with them. This will lead to more loyal customers, happier customers, and long-term company success.

The Influence of Perceived Values on Digital Engagement

These results show that when customers think a company's products or services are worth a lot or would benefit them, they are more likely to use the company's digital platforms to interact with and engage with them. This is consistent with other studies indicating that consumer involvement in the digital realm is significantly affected by the perceived value of a brand (Bianca, 2024)(Alanazi, 2025). When people think that a product offers big benefits, they are more inclined to take part in digital interactions including writing reviews, sharing experiences, and taking part in online promotions (X. Liu et al., 2025). Perceived value positively impacts digital engagement among online retail buyers (Cao et al., 2025).

Companies need to make sure that customers see a lot of value in their goods or services because this can make them more likely to use the company's digital platforms. So, businesses should focus on making items that are useful and suit the needs of their customers. A clear plan for how to talk about the benefits of the product and improve the customer experience is important for improving how customers feel about your business. Companies can also make it easy for people to leave reviews and feedback and take part in promotions or other interactive activities to get them more involved. Companies may improve their relationships with customers, get them to stay loyal, and generate chances for long-term business success by giving them high-value experiences.

The Influence of Perceived Values on Consumer Behavior

This study's findings show that consumers are more likely to buy something if they think it is worth more. One of the most important things that affects what people buy is how much they think it is worth (Yum & Kim, 2024). People usually pick products that give them the best value for the money they spend (Nasib et al., 2026). This finding is consistent with prior studies indicating that perceived value significantly impacts consumer purchasing behavior in the digital retail sector (García-salirrosas et al., 2024). People don't just think about how much a product costs; they also think about how much they get for what they give up (Zhu et al., 2024). This means that businesses should focus on making items or services that are clearly valuable to customers in order to get them to make good buying decisions (N. Sharma & Kayeser, 2024). As competition in digital retail gets tougher, businesses need to make sure they can offer great value through product quality, easy access, and a pleasant shopping experience (Eryc et al., 2026).

Based on these results, retail businesses need to put more effort into giving customers a lot of value to help them make good buying decisions. Management needs to make sure that the goods or services they offer give customers clear and real benefits, such as good quality, low prices, and easy access. So, businesses need to keep coming up with new ideas to make their products and services better and make purchasing more enjoyable. Also, businesses need to make it obvious what the benefits of their goods or services are so that customers can readily figure out how much value they get for the money they spend. This is how businesses may get more loyal customers, get them to buy again, and make the most money in a market that is very competitive.

5. Conclusions

The structural model study shows that Interactive Technology-Based Digital Innovation (IP) and Perceived Value (PV) both have a big effect on Consumer Behavior (PK) and Digital Engagement (DE) in retail businesses in Jambi Province. Moreover, Perceived Value was identified as a crucial factor affecting Digital Engagement. However, Interactive Technology-Based Digital Innovation did not have a direct effect on Digital Engagement or Consumer Behavior. These results indicate that although innovations in digital technology might enhance perceived consumer value, the impact of interactive technology on fostering digital engagement and purchasing behavior is constrained until there is optimal user utilization. So, to get people more involved, businesses need to pay more attention to things like product quality, the shopping experience, and service that make people feel like they are getting more value.

From a practical point of view, these results show how important it is for businesses to improve the quality of the digital technologies they offer and make sure that customers have good experiences. Retailers need to work on building the value that customers see in their products to boost digital engagement and encourage good buying habits. Moreover, the findings of this study create avenues for additional research to investigate other mediating or moderating variables that help elucidate customer behavior in the dynamic landscape of digital retail.

This study presents numerous strategic implications for digital business professionals, e-commerce platforms, and educational institutions. The substantial impact of Perceived Value on Consumer Behavior and Digital Engagement underscores the necessity of delivering high value to consumers via enhanced shopping experiences and superior product and service quality. Subsequent study may formulate a more extensive model by integrating supplementary mediating or moderating variables, such user experience satisfaction or emotional engagement. Subsequent research may encompass more demographically varied groups or be executed across several institutions to enhance the generalizability of the results. A qualitative or mixed-methods approach is also suggested to provide more profound insights into consumer motives and attitudes about the adoption of digital technologies.

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