

# Toward Understanding Elderly Consumers' Impulse Buying in the Digital Marketing: A Conceptual Paper

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DOI: <https://dx.doi.org/10.47772/IJRISS.2024.8120282>

Received: 15 December 2024; Accepted: 19 December 2024; Published: 18 January 2025

## ABSTRACT

This study explores how digital interactivity on Mobile Social Application Platforms (MSAPs) impacts impulse buying behavior among elderly consumers, focusing on the 45–59 age group within the silver economy. The objectives are to understand the cognitive and emotional pathways shaping consumer decisions and to examine the mediating roles of perceived value and sense of presence using the Stimulus-Organism-Response (S-O-R) framework. By integrating the Technology Acceptance Model (TAM), Uses and Gratifications Theory (UGT), and the Cognitive-Affective Model, this research aims to offer a multidimensional understanding of elderly consumer behavior in digital environments.

The methodology is conceptual, drawing insights from existing literature to build a theoretical framework. It identifies key factors such as system responsiveness, real-time communication, and ease of use that influence perceived value and sense of presence. These mediators are critical in connecting platform interactivity to impulse buying behavior. Results highlight that practical feature like personalized recommendations and immersive experiences, such as live streaming and virtual try-ons, enhance both trust and emotional engagement, leading to higher purchasing intent.

Conclusions emphasize the importance of designing user-friendly, inclusive digital platforms that cater to the diverse needs of elderly consumers. This study reveals that the 45–59 age group is not a homogeneous market, but a dynamic segment characterized by financial independence and curiosity for digital platforms. By reducing digital skill gaps and addressing usability challenges, businesses can foster stronger engagement, trust, and loyalty among elderly consumers. These findings provide actionable insights for improving platform interactivity and enhancing consumer satisfaction, while also contributing to the theoretical understanding of elderly impulse buying behavior in the context of digital marketing. Future research should empirically validate these findings and explore cultural and technological factors influencing elderly consumers in various regions.

**Keywords** — Elderly Consumers, Impulse Buying Behavior, Digital Interactivity, Social Commerce, Mobile Social Application Platforms

## INTRODUCTION

In the digital marketing landscape, mobile social application platforms (MSAPs) have transformed consumer behavior through features like personalized recommendations, real-time interactivity, and seamless e-commerce integration (Xiang et al., 2016). Among various consumer segments, elderly individuals, particularly women aged 50 and above, represent a growing demographic with unique traits and notable purchasing potential (Mumel & Prodnik, 2005; Berg & Liljedal, 2022).

In China, this "silver generation" is a significant consumer force. By 2023, over 297 million individuals aged 60

and above made up 21.1% of the population, spending an average of 3.6 hours online daily (CMRI, 2023). Their purchases focus on apparel, health products, and lifestyle goods, driven by a desire to improve quality of life. The silver economy, valued at ¥7 trillion in 2023, is expected to grow to ¥19 trillion by 2035 (CMRI, 2023). Despite their influence, barriers like physical limitations (e.g., poor eyesight) and cognitive challenges (e.g., memory decline) contribute to "digital exclusion" (Yoon et al., 2009).

Elderly consumers rely on accessible channels like word-of-mouth and short video content, showing strong preferences for group-buying and discounts (Musashi et al., 2023; Li et al., 2022). Notably, 68.3% actively engage with short video apps, reflecting the potential of these platforms to shape their purchasing behavior (CMRI, 2023). This mirrors broader trends of elderly consumers adopting smart devices, participating in leisure activities, and prioritizing health and wellness (Berg & Liljedal, 2022).

This study focuses on elderly consumers in Guangdong Province, a leading region in China's digital economy. Guangdong's elderly population demonstrates diverse purchasing behaviors, with high-frequency purchases of apparel, health products, and daily essentials accounting for 35.7% and 28.4% of transactions, respectively (CMRI, 2023). Examining these behaviors balances the regional specificity of Guangdong with broader applicability, ensuring conclusions offer both regional depth and universal relevance.

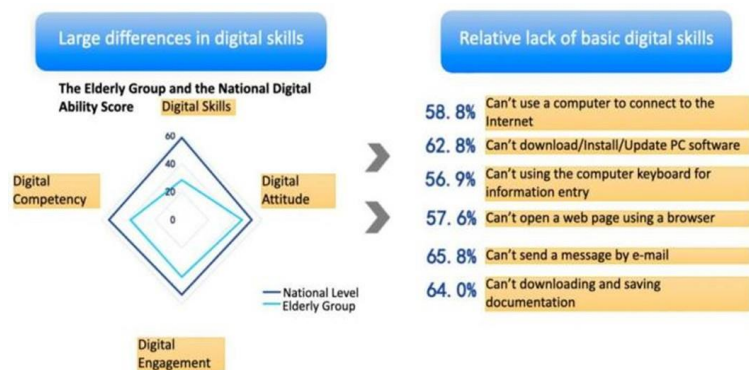
Addressing barriers and leveraging elderly consumers' preferences are crucial to unlocking their market potential. This study examines how MSAPs influence elderly consumers' impulse buying, emphasizing perceived value and sense of presence. By addressing their needs, the research aims to advance theoretical understanding and practical applications within the growing silver economy.

## LITERATURE REVIEW

### The Elderly Consumers Marketing

According to the concept of "Silver Economy" proposed by the European Commission and China's Law on the Protection of the Rights and Interests of the Elderly, the silver-haired group studied in this paper refers to middle-aged and elderly people over 50 years of age who have mastered basic digital skills (Standing Committee of the National People's Congress, 2012; technopolis. & OXFORD ECONOMICS, 2018).

**1) Elderly Consumers and Digital Skills:** According to the Digital Competency Model for Citizens of China Mobile Research Institute, the digital competency score of China's silver-haired group is 38.3, much lower than the overall national level of 54.5. It is mainly manifested in the low score of basic digital skills among digital skills (CMRI, 2023). These skill deficiencies not only create barriers to platform engagement but also amplify difficulties in other areas, such as information search and consumption behavior, as discussed below (Hettich et al., 2017).



Source: China Mobile Research Institute 2023, *Insights into the Digital Lives of China's Silver Group: the 'Slow' Crowd in the Digital Era.*

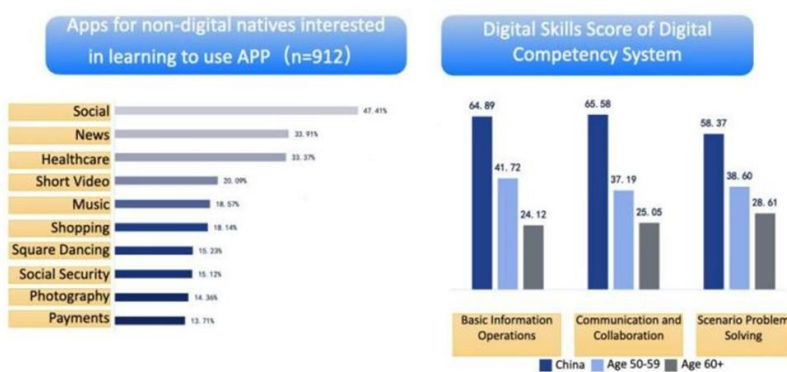
Fig. 1 Digital Skills Gaps and Deficiencies Among Elderly Groups

The elderly population has become a significant market segment with the widespread adoption of digital technologies (Pan & Jordan-Marsh, 2010). However, as shown in Fig. 1, over 50% of older adults cannot perform

basic digital tasks, such as sending emails or browsing web pages. This highlights the urgent need for targeted interventions to improve their digital inclusion.

**2) Elderly Consumers and Information Search Limitations:** While the elderly demonstrate curiosity about mobile applications, they often lack the necessary skills to explore and use these tools effectively. This gap creates a dilemma of "wanting to use but not knowing how to use" (CMRI, 2023).

As shown in Fig. 2, 47.41% of elderly users express an interest in social apps, followed by news (33.91%) and healthcare applications (33.37%). However, their digital skills remain significantly limited. These gaps hinder their ability to adopt and engage effectively with digital platforms. Cognitive decline also adds to these challenges, making information filtering too taxing (Berg & Liljedal, 2022). Consequently, many elderly consumers rely on familiar sources, such as social recommendations or short video platforms (Cao, Qin, et al., 2020). Businesses must address these challenges by employing personalized recommendation systems to minimize the information burden and stimulate purchasing behavior effectively.

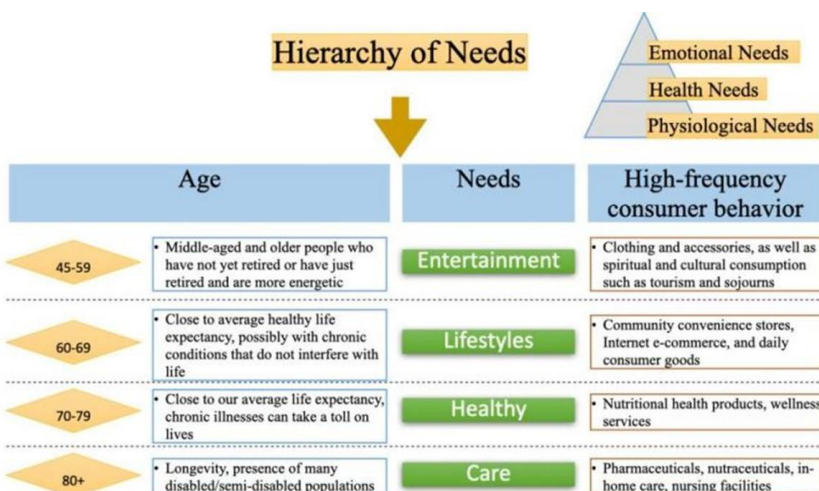


Source: China Mobile Research Institute 2023, *Insights into the Digital Lives of China's Silver Group: the 'Slow' Crowd in the Digital Era*.

Fig. 2 APP Learning Interests and Digital Skills Scores (CMRI, 2023)

**3) Diversity in Elderly Consumers' Needs:** Elderly consumers are a diverse group whose needs evolve significantly with age and lifestyle. Traditional studies often overlook this diversity, treating the elderly population as a homogeneous market (Guido et al., 2022). As shown in Fig. 3, elderly consumers' behaviors shift from entertainment and lifestyle consumption in their younger years to health and care needs as they age.

This study focuses on the 50–59 age group, representing a transitional stage between middle age and old age. Individuals in this group remain energetic, financially independent, and open to new experiences. Their primary focus lies in entertainment and cultural consumption, such as tourism, leisure activities, and apparel, reflecting their desire to enhance quality of life and engage socially (CMRI, 2023).



Source: China Mobile Research Institute 2023, *Insights into the Digital Lives of China's Silver Group: the 'Slow' Crowd in the Digital Era*.

Fig. 3 Hierarchy of Needs and High-Frequency

## Consumer Behavior of Elderly Consumers (CMRI, 2023)

**4) Diversity in Elderly Consumers' Needs:** Social and cultural contexts significantly shape the behavior of elderly consumers. In many Asian countries, particularly China, elderly individuals often live with their family members due to strong cultural traditions emphasizing filial piety and intergenerational co-residence. This living arrangement greatly influences their consumption behaviors, as family members frequently assist elderly individuals with tasks such as mobile payment setups or product selection. These interactions are crucial in enabling elderly consumers to navigate digital platforms (Li et al., 2022).

In contrast, elderly individuals in Western countries tend to live independently, often relying on institutional care such as nursing homes. This cultural difference results in distinct consumption patterns, with Western elderly consumers relying more on personal decision-making and professional services (Berg & Liljedal, 2022).

These socio-cultural differences highlight the importance of regional context in understanding elderly consumer behavior. While familial support is a defining feature in Asian societies, its absence in Western cultures suggests the need for tailored strategies. Researchers must carefully assess whether findings in one cultural setting can be extrapolated to another, accounting for differences in social structures and cultural values.

### Impulse Buying Behavior

Impulse buying behavior is defined as unplanned and spontaneous purchases driven by emotional triggers rather than rational deliberation. It is characterized by immediacy, lack of premeditation, and a focus on instant gratification (Rook, 1987). In digital commerce, this behavior is further amplified by external stimuli such as personalized recommendations, flash sales, and interactive features, which create a sense of urgency and encourage consumers to make decisions without extensive evaluation (Amos et al., 2014). Given its unique psychological and contextual characteristics, impulse buying has been chosen as the focal point of this study due to its distinct relevance to elderly consumers in digital environments.

**1) Why Focus on Impulse Buying Behavior?** Impulse buying differs significantly from planned purchasing behaviors, which typically involve extensive consideration of product attributes, comparison of alternatives, and rational decision-making processes. In contrast, impulse buying is emotion-driven, spontaneous, and often occurs in response to external triggers. These characteristics make it a compelling area of study in digital commerce, where platforms increasingly use real-time interactivity and algorithm-driven personalization to stimulate impulsive decisions (Verhagen & van Dolen, 2011).

For elderly consumers, impulse buying represents a unique behavioral phenomenon. While younger demographics often engage in hedonic purchases driven by novelty or self-expression, elderly consumers exhibit a focus on practicality and emotional satisfaction. Features such as group-buying, peer recommendations, and promotional discounts have been shown to effectively stimulate impulse purchases among older adults (Pan & Jordan-Marsh, 2010). These behaviors highlight the adaptability of impulse buying triggers to meet the specific preferences and constraints of elderly consumers, making it an essential subject for further exploration.

**2) Significance of Impulse Buying for Elderly Consumers on Digital Platforms:** In the context of digital commerce, impulse buying offers unique benefits for elderly consumers. First, it satisfies their need for immediacy and convenience, particularly in obtaining everyday goods or services. Digital platforms enable elderly consumers to act on their impulses without requiring physical effort or extended decision-making, which can be particularly beneficial given potential cognitive or physical limitations (Yoon et al., 2009).

Second, impulse buying enhances emotional well-being by fostering feelings of excitement and joy. Engaging in spontaneous purchases through features like flash sales or limited time offers can provide a sense of accomplishment and fulfillment, especially when these interactions are supported by personalized recommendations. These emotional connections reinforce trust and engagement with digital platforms, bridging the gap between functionality and emotional resonance (Amos et al., 2014).

Third, impulse buying on digital platforms facilitates social interactions. Features such as group-buying not only provide economic benefits but also enable elderly consumers to feel connected with their peers. Peer



recommendations and shared promotional experiences create opportunities for social engagement, which can reduce feelings of isolation and contribute to a sense of belonging (Guido et al., 2022).

By focusing on impulse buying behavior, this study aims to uncover the underlying mechanisms through which digital platforms influence elderly consumers' purchasing decisions. Specifically, it explores how perceived value and sense of presence act as mediators, enhancing trust and emotional engagement in the context of mobile media interactivity. These insights will provide valuable guidance for tailoring digital commerce strategies to better serve the needs of elderly consumers while maximizing their engagement with digital platforms.

### Mobile Media Interactivity

Mobile media interactivity acts as a crucial external stimulus that influences consumer decision-making processes. By creating engaging and immersive shopping environments, it enhances perceived value and fosters a strong sense of presence. These mediating factors bridge the relationship between platform interactivity and impulsive purchasing, making them central to understanding elderly consumers' behaviors in the digital marketing landscape.

**1)User Communication:** User communication lies at the core of interactive platforms, fostering trust and social engagement (Bixter et al., 2018; Chu & Kim, 2011). Defined as interactions between users or between users and platforms, it is facilitated by tools such as reviews, comments, likes, and shares. Chu and Kim (2011) found that user-generated content, particularly peer reviews and recommendations, significantly enhances platform credibility and consumer trust. For elderly consumers, communication features provide a vital channel to reduce information asymmetry and build confidence in purchasing decisions. Group-buying chats, real-time discussions, and social sharing enable collaborative shopping experiences, making the platform more accessible and relatable (Zhou et al., 2013). By promoting interaction, user communication enhances both emotional and functional engagement, driving impulse buying behavior (Bixter et al., 2018).

**2)System Responsiveness:** System responsiveness refers to the platform's ability to efficiently and promptly react to user inputs, such as loading pages, processing transactions, or providing feedback (Fath et al., 2024). A responsive system enhances user satisfaction and reduces frustration, creating a seamless shopping experience. Research by Gefen et al. (2003) emphasizes that fast and reliable systems foster trust, especially in online environments. For elderly consumers, responsiveness is crucial, as delays or unresponsive features can lead to confusion and disengagement. Instant payment confirmations, real-time notifications, and smooth navigation instill confidence, making the shopping process more intuitive and enjoyable (Nunan & Di Domenico, 2019). System responsiveness thus acts as a key enabler of impulsive purchasing by eliminating barriers to decision-making.

**3)Ease of Use Influence:** Ease of use is defined as the degree to which a platform's interface is user-friendly and requires minimal cognitive effort to navigate. For elderly consumers, ease of use directly influences their ability to interact with digital platforms, given potential cognitive or physical limitations (Davis, 1989; Pan & Jordan-Marsh, 2010). Davis (1989) identified intuitive design and clear navigation as critical factors in technology adoption. Features like large buttons, simplified layouts, and accessible help functions enhance usability and reduce frustration. Platforms that prioritize ease of use not only lower barriers to participation but also create a positive shopping experience that encourages spontaneous purchases (Ding & Wang, 2024). By minimizing complexity, ease of use enables elderly consumers to focus on the joy of exploration, facilitating impulse buying (Huang, 2023).

Table I: Stimuli Dimensions of Mobile Media Interactivity

Dimension	Findings	References
User Communication	Peer interactions, such as comments and reviews, significantly enhance trust and credibility, leading to higher perceived value.	(Bixter et al., 2018; Zhou et al., 2013)

System Responsiveness	Fast and reliable system feedback reduces cognitive load, fosters emotional immersion, and strengthens the sense of presence.	(Fath et al., 2024; Gefen et al., 2003; Nunan & Di Domenico, 2019)
Ease of Use Influence	Simplified interfaces improve functional satisfaction, making platforms more accessible and enjoyable for elderly users.	(Davis, 1989; Ding & Wang, 2024; Huang, 2023)

### Mediating Roles of Perceived Value and Sense of Presence

**1) Perceived Value:** Perceived value refers to the consumer's overall evaluation of a product or service based on the balance between perceived costs and benefits. Its influence can be divided into two primary dimensions: functional value and emotional value (Zeithaml, 1988).

**Impact of Functional Value:** Functional value reflects the practicality and ability of a product to meet the consumer's tangible needs. For elderly consumers, platforms that provide personalized discounts, clear product descriptions, and precise recommendation algorithms can significantly enhance their perception of functional utility. For instance, studies have found that discount strategies effectively reduce perceived costs, thereby increasing purchase intention (Zeithaml, 1988; Hettich et al., 2017). When elderly consumers purchase health products or home goods, a strong sense of functional value directly boosts their confidence in making purchases.

**Impact of Emotional Value:** Emotional value arises from the pleasure and satisfaction derived from the shopping experience. For example, platforms with interactive features, such as user reviews and sharing functions, create a warm and relatable shopping environment that makes consumers feel "supported" and "understood." This is particularly evident in group-buying activities, where consumers can share information with acquaintances and receive feedback, fostering positive emotional connections (Pan & Jordan-Marsh, 2010). This emotional satisfaction not only increases the consumer's preference for the platform but also directly triggers impulse buying behavior.

As a mediating variable, perceived value bridges the relationship between platform interactivity and impulse buying by enhancing functional and emotional value, offering theoretical support for optimizing elderly consumers' shopping experiences.

**2) Sense of Presence:** Sense of presence refers to the psychological feeling of being "immersed" in a virtual shopping environment. Its impact is primarily realized through the enhancement of emotional connection and trust (Lombard & Ditton, 1997).

**Impact of Real-Time Interaction:** One of the core sources of sense of presence is the platform's real-time interactive features, such as live shopping and instant messaging. These functions enable consumers to directly communicate with streamers or customer service representatives, obtain immediate feedback, and reduce psychological distance during decision-making (Baños et al., 2004; Lombard & Ditton, 1997). For elderly consumers, such real-time interactions recreate the familiarity and security of offline shopping. For example, during a live shopping session, detailed product demonstrations and immediate Q&A not only build trust but also encourage emotional engagement, thereby driving impulse buying.

**Impact of Immersion:** Sense of presence is also reflected in the immersive nature of the shopping experience, such as through high-definition visuals, virtual try-ons, or even AR-enabled features. These immersive experiences provide consumers with realistic sensory feedback, which can strongly stimulate their purchase impulses. For example, virtual try-on technology allows elderly consumers to "see" how a product works for them in a digital environment, which not only builds trust but also helps them make quicker purchase decisions (Kang & Ridgway, 1996; Muhammad et al., 2024).

As a mediating variable, sense of presence strengthens emotional connections and trust through real-time interaction and immersive experiences, making it a powerful driver of impulse buying behavior in digital

shopping. Table II further illustrates how interactive features like live streaming and real-time notifications enhance the sense of presence, fostering emotional immersion and confidence in purchasing decisions.

**3) Perceived Value and Sense of Presence in the S-O-R Framework:** The Stimulus-Organism-Response (S-O-R) framework proposed by Mehrabian and Russell (1974) explains how external stimuli (S) influence internal psychological states (O), which in turn drive behavioral responses (R). In this study, mobile media interactivity serves as the stimulus (S), while perceived value and sense of presence act as mediating variables (O) that ultimately influence impulse buying behavior (R).

Perceived value emphasizes cognitive evaluations, such as the benefits of personalized discounts and peer reviews, which enhance both functional and emotional value. Sense of presence, on the other hand, captures the immersive emotional experience created by interactive features like live streaming and real-time interactions. These mediating factors operate both independently and synergistically. Perceived value enhances trust and satisfaction, which in turn amplify the emotional immersion provided by sense of presence, during a live shopping session, personalized discounts increase perceived value, which further intensifies the sense of presence and emotional engagement, leading to impulse buying behavior.

Table II: Mediating Factors Linking Interactivity and Impulse Buying

Mediating Factor	Findings	Path	References
Perceived Value	Mobile media interactivity enhances functional and emotional value through features like discounts, reviews, and peer interactions.	Mobile Media Interactivity (e.g. discounts and reviews) → Perceived Value (Functionality and emotional value enhancement) → Impulse Buying	(Hettich et al., 2017; Pan & Jordan-Marsh, 2010; Sánchez-Fernández & Iniesta-Bonillo, 2007; Zeithaml, 1988)
Sense of Presence	Interactive elements such as live streaming and real-time notifications create emotional immersion, fostering trust and confidence.	Mobile Media Interactivity (e.g., live streaming and immersive technologies) → Sense of Presence (real-time interaction and immersion enhancement) → Impulse Buying	(Baños et al., 2004; Kang & Ridgway, 1996; Lombard & Ditton, 1997; Muhammad et al., 2024)

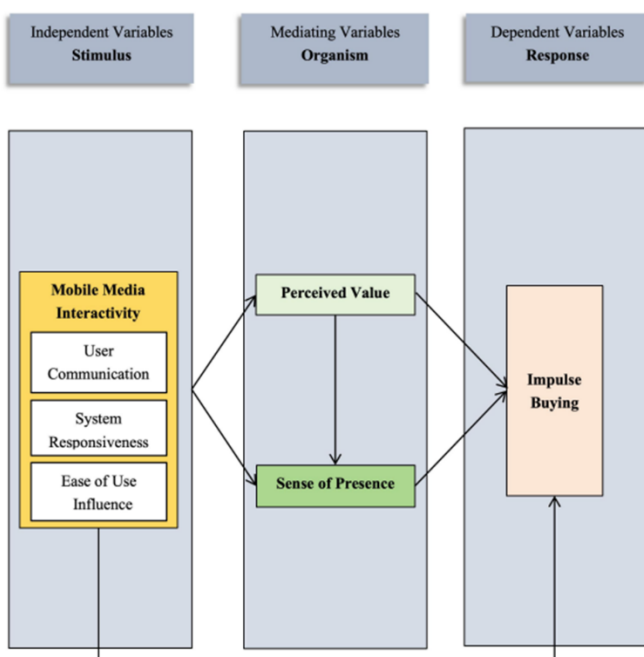


Fig. 4 Conceptual framework for understanding elderly online impulse buying

As illustrated in Fig. 4, the conceptual framework visually demonstrates the dynamic interplay between mobile media interactivity (stimulus), perceived value and sense of presence (organism), and impulse buying behavior (response), highlighting their interconnections and mediating effects. In summary, perceived value and sense of presence act as critical mediators in the S-O-R framework, integrating cognitive evaluations and emotional responses to comprehensively explain elderly consumers' impulse buying behavior on digital platforms.

**Relevant Theoretical**

This study builds on the Stimulus-Organism-Response (S-O-R) framework, which posits that external stimulus (S) influence internal states (O), leading to specific behavioral responses (R) (Russell & Mehrabian, 1974). Mobile media interactivity serves as the primary stimulus in this research, while perceived value and sense of presence act as mediators that connect interactivity to impulse buying behavior.

**1) Maslow's Hierarchy of Needs:** Maslow's Hierarchy of Needs categorizes consumer motivations into physiological, safety, social, esteem, and self-actualization levels (Maslow, 1943). For elderly consumers, their needs span health, emotional satisfaction, and practicality, combining physiological, emotional, and social priorities. This theory enriches the S-O-R framework by deepening the understanding of internal states (O) and how digital platforms address both emotional and practical needs, such as health-related products fulfilling physiological needs and group-buying experiences catering to emotional and social needs.

**2) Integration of Supporting Theories**

**Technology Acceptance Model (TAM):** The Technology Acceptance Model (TAM) emphasizes perceived ease of use and perceived usefulness as key drivers of technology adoption (Davis, 1989). For elderly consumers, platforms with intuitive interfaces and responsive systems increase ease of use, building trust and engagement (Guner & Acarturk, 2018). In the S-O-R framework, platform interactivity (S) influences perceived value and ease of use (O), which ultimately leads to impulse buying behavior (R).

**Uses and Gratifications Theory (UGT):** Uses and Gratifications Theory (UGT) explains how consumers seek media to fulfill social and emotional needs, such as connection and entertainment (Katz et al., 1973). Elderly consumers benefit from real-time communication and interactive content, fostering emotional immersion and trust (Chou & Liu, 2016). In the S-O-R framework, media gratifications (S) activate emotional engagement and sense of presence (O), driving impulse buying behavior (R).

**Cognitive-Affective Model:** The Cognitive-Affective Model highlights the dynamic interplay between cognitive appraisals (e.g., perceived value) and emotional responses (e.g., sense of presence) in shaping consumer behavior (Bagozzi et al., 1999). Interactive features stimulate both dimensions, amplifying their combined effects on impulse buying. In the S-O-R framework, stimuli (S) evoke cognitive and emotional responses (O), ultimately leading to behavioral outcomes (R).

**Table III: Study on relevant theoretical**

Theory	Core Concepts	Applications in This Study	References
S-O-R Framework	External stimuli (S) influence internal states (O), driving responses (R).	Provides the primary framework, mapping MSAP interactive features as stimuli, perceived value and sense of presence as mediators, and impulse buying as the response.	(Russell & Mehrabian, 1974)
Technology Acceptance Model (TAM)	Perceived usefulness and perceived ease of use are key factors influencing technology acceptance and use.	Highlights how MSAP's usability influences elderly users' behavior as stimuli (S).	(Davis, 1989)



Uses and Gratifications Theory (UGT)	Individuals actively select media to fulfill cognitive, emotional, and social needs.	Explains MSAP's role in fulfilling elderly users' social and emotional needs.	(Katz et al., 1973)
Cognitive-Affective Model	Cognitive evaluations (e.g., perceived value) and emotional responses (e.g., sense of presence) jointly influence behavior.	Supports perceived value and presence as mediators in impulse buying behavior.	(Bagozzi et al., 1999)

While supporting theories like TAM, UGT, and the Cognitive-Affective Model provide valuable insights, the S-O-R framework remains the primary lens for analyzing elderly consumers' behavior. This study uniquely integrates these theories to enrich the S-O-R framework, ensuring that the relationships between stimuli, internal states, and behavioral responses are comprehensively understood.

## CONCLUSION

This study extends the Stimulus-Organism-Response (S-O-R) framework to explore elderly consumers' impulse buying behavior on mobile social application platforms (MSAPs). By integrating perceived value and sense of presence as mediators, it reveals how MSAP interactivity influences consumer decisions through cognitive and emotional pathways. The study also incorporates the Technology Acceptance Model (TAM), Uses and Gratifications Theory (UGT), and the Cognitive-Affective Model, creating a comprehensive framework to analyze how platform interactivity drives cognitive evaluations, emotional engagement, and consumer behavior. By focusing on the 45–59 age group, a critical segment within the silver economy, this study highlights their financial independence, digital curiosity, and entertainment consumption patterns, offering theoretical support for understanding their dynamic needs and informing targeted marketing strategies.

## Theoretical Contributions

This study contributes to theory by extending the S-O-R framework to include elderly consumers, a demographic often underrepresented in digital marketing research. By incorporating perceived value and sense of presence as mediators, the study deepens the understanding of cognitive and emotional pathways influencing consumer behavior in digital environments. Additionally, it integrates the TAM, UGT, and Cognitive-Affective Model, creating a cohesive framework to analyze how stimuli in MSAPs affect cognitive evaluations, emotional engagement, and consumer responses. These theoretical connections offer a nuanced perspective on the interplay between digital interactivity and consumer behavior. Furthermore, the study provides valuable insights into how MSAP interactivity enhances perceived value and sense of presence, which, in turn, drive impulse buying behavior among elderly consumers. This focus significantly advances the understanding of consumer behavior in digital contexts, particularly for an underserved and dynamic demographic segment.

## Limitations and Future Research

This study, being conceptual in nature, lacks empirical validation, which may limit the generalizability of its findings. While it focuses on impulse buying behavior, other purchasing behaviors, such as planned or habitual buying, remain unexplored. Future research could broaden the scope by investigating how different types of consumer behavior interact with MSAP interactivity, providing a more holistic understanding of elderly consumers' decision-making processes.

Additionally, cultural and social contexts may significantly influence the findings. For instance, family dynamics, societal norms, and access to technology vary across regions and could shape elderly consumers' engagement with digital platforms. Future studies could employ cross-cultural or longitudinal datasets to examine these variations, offering insights into how the proposed framework performs across diverse demographic and geographic settings. Such research would not only enhance the robustness of the framework but also provide globally applicable guidance for marketing strategies targeting elderly consumers.

Finally, examining the long-term impacts of MSAP interactivity on elderly consumers, particularly in fostering loyalty, retention, and sustained engagement, could yield valuable practical insights. By exploring the evolving preferences and behaviors of elderly consumers over time, future research could contribute to the development of adaptive digital marketing strategies in the rapidly changing digital landscape.

## ACKNOWLEDGMENT

Thanks to all the authors for their combined efforts.

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