Chapter 7

Mobile Commerce and App Design

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Abstract

This chapter examines mobile commerce within the context of digital transformation, focusing on the interaction between user behavior and application design. Literature findings reveal that mobile commerce has evolved from a technical process into an experience-oriented system enriched by personalization, visual design, information quality, and trust. Superior convenience, accessibility, information consistency, reduced cognitive load, and intuitive interface design are key determinants of adoption and satisfaction.

Individual factors (mobile skillfulness, innovativeness, compatibility) and social influence also play significant roles in shaping user engagement. Overall, mobile commerce represents not only a technological innovation but a user experience field where design, trust, and psychology converge. Human-centered design, transparent information, and data-driven personalization are essential for sustainable mobile retail success.

1. Introduction

Mobile commerce, one of the most significant outcomes of the digital transformation process, has fundamentally changed consumer behavior and the retail ecosystem. Initially seen as an extension of e-commerce, this phenomenon has now evolved into a multidimensional experience that integrates with individuals' lifestyles, cognitive processes, and social interaction styles. With the proliferation of smartphones, the diversification of mobile applications, and the development of personalized service models, mobile commerce is no longer merely a purchasing channel; it has evolved into a life practice that shapes user psychology, perception of trust, and design experience.

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In this context, the historical evolution of the concept of mobile commerce extends from the early transaction-oriented and technical approach to today's multilayered structure encompassing experiential, emotional, and contextual dimensions. The literature reveals that variables such as convenience, time flexibility, hedonic and utilitarian motivations, the balance of trust and risk, and technology acceptance are the determining factors in users' adoption of mobile shopping. Furthermore, individual (mobile competence, innovation, compatibility) and social (reference groups, social influence) factors also appear to have strong influences on behavioral intention. The dynamic nature of mobile commerce is shaped not only by user attitudes but also by platform design features such as information quality, visuals, entertainment elements, personalization, and economic benefits. Empirical evidence from permission-based mobile marketing confirms that information provision and entertainment are decisive factors enhancing users' acceptance of mobile applications, whereas perceived irritation negatively affects their willingness to engage (Sütütemiz & Kurnaz, 2012). The interaction of these elements with design quality and user psychology is central to the modern mobile commerce experience. Furthermore, cognitive load and visual complexity add a dimension to the user experience that requires in-depth understanding.

This chapter examines mobile commerce not merely as a technological innovation but as a digital ecosystem integrating cognitive, emotional, and relational factors. The aim is to examine the multidimensional factors that determine mobile commerce adoption, reveal the interrelationship between application design and user behavior, and highlight the strategic importance of design.

2. Definition and Evolution of Mobile Shopping

Mobile commerce is a concept defined in various ways in literature and generally refers to a wide range of commercial activities conducted via mobile devices. According to Groß (2015), mobile commerce, a popular alternative approach to purchasing products worldwide, is defined as consumers searching, browsing, comparing, and purchasing goods and services online using wireless (handheld) mobile devices (Marriott et al., 2017). A review of the literature reveals that the definition of mobile commerce has evolved over the years. While initially more technical and transactional, with the proliferation of smartphones, the definition has expanded to include multifaceted activities, user experience, and psychological factors. This evolution can be divided into three main periods: the early period, the middle period, and the current period. The evolution of the definition of

mobile commerce and the differences between these periods are examined below.

Early Period: Transaction Focus and the Expansion of E-commerce (Early 2000s–2012)

Definitions made during this period generally considered mobile commerce an extension of basic financial transactions conducted over wireless networks or e-commerce. Three key points stand out for this period.

Focus on Monetary Transactions: Early definitions defined mobile commerce as "any search, evaluation, or monetary transaction activity related to the purchase of goods or services over an Internet-connected mobile or cellular device or a wireless telecommunications network." Similarly, Wong et al. (2012:25) defined mobile commerce as "any monetary transaction related to the purchase of goods or services over an Internet-connected mobile phone or a wireless telecommunications network." These definitions emphasize that mobile commerce is primarily a purchasing and payment process.

Mobile Adaptation of the Traditional Shopping Flow: Lu and Su (2009:442) further expanded this definition, stating that "the entire flow of the traditional shopping experience, including product searches, price and product comparisons, ordering, payment, and advertising, is now conducted via the mobile device." This implies that not only purchases but also other steps of the shopping process have moved to the mobile channel.

The Continuation of E-commerce: Ozok and Wei (2010) defined mobile commerce as "the successor to e-commerce, involving the online purchase of goods or services using mobile devices." This definition reinforces the idea that mobile commerce is the mobile version of e-commerce.

The Middle Period: Expansion of Scope with Smartphones (2012–2017)

With the proliferation of smartphones and the increasing capabilities of mobile devices, the definition of mobile commerce has expanded beyond mere transactions to emphasize a broader range of activities and spatial/temporal flexibility. This period highlights four phases:

Focused on Information Gathering and Decision Making: Lai et al. (2012:387) defined mobile commerce as "a service that allows shoppers to instantly gather information from multiple sources, check product availability, evaluate special offers, and modify their choices at any stage of the purchasing process." This definition makes mobile commerce an integral part of the information seeking and decision-making process.

Comprehensive Shopping Activities: Groß (2015) defined mobile commerce as "an alternative approach for consumers to search, browse, compare, and purchase products and services online from multiple retailers, anytime, anywhere, using mobile devices." This definition broadens the scope by explicitly listing multiple activities, such as searching, browsing, comparing, and purchasing.

Including Activities Beyond Purchasing: Holmes et al. (2013) stated that mobile commerce "is not limited to purchasing but also includes activities such as checking prices, comparing products, gathering product information, and reading user reviews." This is an important distinction that highlights the non-transactional, assistive roles of mobile commerce.

The Role of the Personal Assistant and the In-Store Experience: Yang (2010:262) stated that mobile commerce services can be "personal assistants that optimize shopping experiences in physical store environments by designing a customized, real-time interaction channel between retailers and consumers, offering non-intrusive mobile marketing tailored to customers' interests, preferences, and priorities, helping them make smart purchasing decisions, and providing support in other typical shopping situations, such as navigation and payment." This highlights the integration of mobile commerce into the in-store experience and its role as a personalized assistive device.

Present: Platform Features and Psychological Interactions (2017–present)

Recent research has further enriched this definition by examining the platform-specific characteristics of mobile commerce, its effects on consumer emotions, and the changing behaviors among specific demographic groups.

Emphasizing Platform Diversity: Makudza et al. (2024:4) stated that mobile commerce can be accomplished "using one of three platforms," such as a brand's e-commerce website, app-based platforms, or native apps (e.g., Google Play or the Apple App Store). This makes the diversity of technical platforms on which mobile commerce occurs part of the definition.

Emphasizing Dynamic Interactivity and Convenience: Belkhamza and Niasin (2016:251-257) stated that mobile commerce "can offer a unique and continuous shopping experience thanks to the ability of mobile devices to dynamically interact with consumers." They also emphasized that "the convenience of mobile commerce relates to the ability to access online shopping services with fewer or no physical constraints compared to desktop computers." This emphasizes user-focused benefits such as dynamic interaction and effort minimization.

Emotional and Psychological Impacts: Recent studies examine the impact of mobile commerce platform features (information, entertainment, personalization, visual appeal, and economic benefits) on consumers' emotional responses (excitement and pleasure) and impulsive purchasing behavior. Complementing these platform effects, Gen-Z studies show that e-WOM escalates conspicuous and materialistic orientations that heighten responsiveness to mobile shopping stimuli (Kurnaz & Duman, 2021). Furthermore, Prodanova and Chopdar (2024) investigate the "interplay of app features and smartphone addiction in mobile shopping behavior." This deepens the definition by considering the complex relationship between consumer psychology and platform design.

Demographic Group-Specific Definitions: Huang (2023) focused on the drivers of mobile shopping behavior among older adults. Such studies demonstrate that mobile commerce carries different meanings for different user groups and must address specific needs (e.g., security and privacy concerns for older adults).

This evolution clearly demonstrates that mobile commerce has evolved from its initial definition of a simple transaction to its current definition of a comprehensive, personalized, emotional, and context-rich consumer experience. With the evolution of mobile devices and the diversification of usage scenarios, the definition of mobile commerce is constantly expanding. Mobile shopping behavior is an ever evolving and integrated online approach that encompasses consumers searching, browsing, comparing, and purchasing products and services through their mobile devices (such as smartphones and tablets). While considered an extension of e-commerce, this behavior offers value as a unique channel.

3. Determinants of Mobile Commerce Adoption

The adoption of mobile commerce is shaped by a complex interplay of motivational, technological, psychological, and social factors. Unlike traditional e-commerce, where access and functionality dominate the decision-making process, mobile commerce adoption involves emotional, contextual, and experiential considerations. Consumers' intentions to engage with mobile platforms are influenced by their perceptions of convenience, usefulness, and enjoyment, as well as by perceived risks and trust. Thus, the adoption process extends beyond functional evaluation—it reflects how individuals interpret technology as part of their everyday routines, values, and lifestyles. The integration of cognitive and affective evaluations makes mobile commerce a dynamic behavioral field rather than a purely technological phenomenon.

From a broader perspective, the determinants of mobile commerce adoption can be categorized into motivational factors, technology acceptance and psychological factors, and individual and social influences. Motivational drivers such as convenience, ubiquity, and enjoyment form the foundation of users' utilitarian and hedonic expectations. These are complemented by technology-related perceptions like ease of use, usefulness, and trust, which reduce uncertainty and encourage habitual engagement. Finally, demographic characteristics, personal innovativeness, and social influence define how users adopt and integrate mobile shopping into their daily lives. The following sections explore these dimensions in greater depth, revealing how cognitive, emotional, and contextual variables jointly determine users' behavioral intentions in the mobile commerce environment.

Factors Determining Mobile Commerce Adoption: Motivations, Advantages, and Barriers

This section provides a brief literature-based overview of the key determinants influencing mobile commerce adoption. While mobile technologies enable consumers to shop anytime, anywhere, adoption decisions stem from the interaction of motivational, technological, psychological, and social factors.

Research indicates that mobile shopping behavior is primarily driven by utilitarian and hedonic motivations such as convenience, accessibility, mobility, and pleasure (Belkhamza & Niasin, 2016; Childers et al., 2001; Groß, 2015). Key technological determinants such as perceived usefulness, ease of use, and pleasure form the cognitive basis of adoption in models such as Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2003; Davis et al., 1992).

However, trust and perceived risk remain important psychological factors shaping users' trust in and willingness to use mobile platforms (Siau & Shen, 2003; Gefen et al., 2003). Issues related to data privacy, system reliability, and payment security often determine perceived security, while anxiety and cognitive load influence behavioral intentions (Lu & Su, 2009; Yang & Forney, 2013; Saprikis et al., 2018).

In addition, personal innovativeness, compatibility, and social influence significantly influence adoption decisions (Rogers et al., 2014; Venkatesh et al., 2003). Affiliation and personalization factors, such as mobile coupons, geolocation-based services, and personalized recommendations, foster customer loyalty and continued use (Morgan & Hunt, 1994; Ho & Tam,

2005). Furthermore, information quality, entertainment, and visual design are central to user interface effectiveness and influence satisfaction, trust, and impulsive purchasing (Adelaar et al., 2003; Liu et al., 2020).

Finally, demographic and contextual moderators such as gender, age, culture, and digital competence shape user perceptions and experiences (Chen & Zhai, 2023; Huang, 2023). Therefore, mobile commerce adoption is best understood through a multidimensional framework that integrates cognitive, emotional, and contextual perspectives.

Superior Convenience and Accessibility: The most important factors in the adoption of mobile shopping behavior are superior convenience and accessibility (Belkhamza & Niasin, 2016; Makudza et al., 2022). It creates a perception of significantly greater convenience and speed than traditional e-commerce experiences. For individuals with busy lifestyles, mobile commerce offers the advantage of "micro-time usage," which minimizes waiting times and enables transactions to be completed with a few taps. Accessibility, on the other hand, relates to users' ability to shop from anywhere with an internet connection, at any time of day. Mobile devices democratize the shopping process by providing seamless access to products and services without the need for physical stores or computer access. Amazon's "Click to Order" feature on its mobile app allows users to save payment and address information and place orders with a single tap. This is a classic example of the concept of "micro-time usage," allowing users to complete their purchases in seconds, even on the bus, in a meeting, or during a coffee break. Because the app operates with the same interface across geographies, users experience the same convenience regardless of their location. Furthermore, services like Amazon Go and Same-Day Delivery have reinforced the "instant access" culture.

Shopping Anywhere, Anytime: Mobile devices offer consumers the ability to shop anywhere and anytime, requiring less effort and effort than desktop-based or traditional shopping (Belkhamza & Niasin, 2016; Marinkovic & Kalinic, 2017; Saprikis et al., 2018). Instant service providers like Getir, Trendyol Hızlı Market, and Yemeksepeti allow users to order even at night or on the go. Thanks to location-based service structures, consumers can request products with just a few taps, whether at home, at work, or outdoors.

Ubiquity and Mobility: The ubiquity and mobility features of mobile devices create significant value by providing access to products and services without spatial or temporal limitations (Belkhamza & Niasin, 2016; Marinkovic & Kalinic, 2017; Saprikis et al., 2018). Mobility, on the other hand, relates to users' ability to access digital environments and seamlessly

transact while on the go. This feature makes the online shopping experience dynamic and flexible, providing individuals with a sense of "instant access" similar to the experience they experience in physical stores. Furthermore, mobility facilitates the transformation of shopping from a planned activity to spontaneous behavior, especially for individuals with busy schedules. Uber Eats and DoorDash automatically update restaurant listings based on the user's location. The system re-suggests nearby restaurants as the user moves, demonstrating the dynamic content adaptation capacity of mobility. Nike Run Club or Decathlon Apps offer product recommendations while the user is on the go (e.g., equipment recommendations during exercise). This creates an instant interaction between physical activity and digital shopping.

Principle of Least Effort: Consumers' tendency to act according to the "principle of least effort" leads them to prefer easier and faster shopping experiences (Zipf, 1949; Belkhamza & Niasin, 2016). According to this principle, coined by Zipf (1949), individuals tend to prefer ways to achieve their goals that require the least possible physical and mental effort. In this respect, mobile commerce strongly responds to this trend by allowing users to perform actions such as product search, comparison, and purchase with minimal effort (Belkhamza & Niasin, 2016). Hepsiburada's "All in One Screen" design reduces transaction steps by combining the add to cart, coupon application, and payment steps onto a single page. Users can complete the entire transaction on a single screen without switching between different tabs. The Zara and IKEA mobile apps offer features like "Pay with QR" or "Scan & Collect in Store," allowing users to pay without having to go to the checkout. This reflects the concept of minimal effort at the intersection of physical and digital channels, making the shopping process virtually automatic.

Utility and Hedonic Motivations: The motivations driving mobile commerce adoption are both utility and hedonic (Belkhamza & Niasin, 2016; Childers et al., 2001; Groß, 2015):

- *Utility Performance Expectation (Utility Perception):* This refers to the belief that mobile commerce will facilitate task performance and enable consumers to complete shopping tasks faster (Belkhamza & Niasin, 2016; Groß, 2015; Venkatesh et al., 2003; Yang, 2010). Zara and H&M apps show users which stores have the products they are looking for, with "find in stock" or "find in store" options; this speeds up access to information and increases the perception of utility performance.

- *Hedonic Performance Expectancy (Perception of Fun):* This emphasizes the fun, pleasure, and excitement aspects of mobile commerce (Groß, 2015; Yang, 2010). The Sephora app allows users to virtually try on lipstick, eyeshadow, or foundation with its AR (augmented reality)-based "Virtual Try-On" feature. This interaction combines fun with personal interest. Hedonic values have been shown to have a stronger impact on consumers' mobile commerce adoption intentions than utilitarian values (Lai et al., 2012; Yang, 2010; Yang & Kim, 2012). However, for experienced smartphone users, utilitarian features (such as convenience and ubiquity) have also been found to be more powerful than hedonic features in creating a positive attitude toward mobile commerce (Groß, 2015).

Technology Acceptance, Trust, and Psychological Factors

Perceived Ease of Use (PEOU): The ease and clarity of mobile commerce services positively influence intention to use and perceived usefulness (Groß, 2015; Lu & Su, 2009; Saprikis et al., 2018). Perceived Ease of Use (PEOU), along with perceived usefulness, is one of the core beliefs that determine intention to use technology in the Technology Acceptance Model (TAM). For example, searching for a product using voice commands, as in everyday conversations, instead of typing, eliminates the difficulty of using a keyboard and speeds up shopping.

Perceived Usefulness (PU): The belief that mobile commerce will improve personal shopping activities strongly influences behavioral intention (Groß, 2015; Lu & Su, 2009; Saprikis et al., 2018). Along with perceived ease of use, it is one of the core beliefs that determine intention to use technology in the Technology Acceptance Model. For example, apps like Hepsiburada and Amazon allow users to add previously purchased items to their carts with a single click, completing the order in seconds, eliminating the burden of product search, stock control, and cart creation, and increasing perceived utility.

Perceived Enjoyment: The fun and enjoyment of mobile commerce increase user intention, perceived usefulness, and ease of use (Davis et al., 1992; Lu & Su, 2009; Saprikis et al., 2018; Venkatesh, 2000). In Trendyol Live (Trendyol Milla Live) or TikTok/Instagram shopping, brands promote their products through live broadcasts. While watching these broadcasts, users can comment, ask questions, and instantly purchase discounted products. This experience brings the social interaction and excitement of traditional shopping to the mobile environment, increasing the perception of enjoyment. Some e-commerce platforms offer users the right to spin a

wheel for a certain period or for daily logins. Users spin the wheel to earn rewards such as discount coupons or free shipping. This little gamification makes the app fun to use by turning it into a "win prize" activity.

Trust: Customer trust strengthens purchase intentions by reducing perceived risk in mobile commerce (Groß, 2015; Siau & Shen, 2003). Trust has three dimensions: initial, system, and committed trust (Gefen et al., 2003). Initial trust is the fundamental belief held by customers using a platform for the first time and is supported by certificates such as SSL/TLS and PCI DSS. System trust is the belief that the infrastructure will operate flawlessly and securely; biometric authentication such as Face ID/Touch ID enhances this trust. Committed trust is based on the fulfillment of promises such as delivery, product quality, and a return guarantee.

Practices such as easy returns and fast refund processes, and pooled payments in the marketplace model, reinforce trust. 24/7 chatbot or live support systems also ensure the sustainability of this trust. Ultimately, trust is a multilayered process strengthened not only by technical measures but also by transparency, experience, and user support.

Anxiety: The real or imagined tension, fear, and worry users experience when using technology (e.g., a mobile shopping app). These feelings negatively impact perceived ease of use and intention to use (Lu & Su, 2009; Saprikis et al., 2018). Anxiety encompasses the psychological reactions users experience to technology, such as uncertainty, fear of making mistakes, privacy concerns, and a sense of loss of control. This feeling typically arises for the following reasons: Information security concerns, system distrust, a sense of loss of control and cognitive load.

The Getir app's real-time delivery map provides users with a sense of control by providing a transparent process. Apps like Google Pay and Apple Pay provide assurance of data security by obscuring card numbers, which reduces transaction anxiety, especially for those making mobile payments for the first time. While Generation Z users generally perceive systemic risks less, Generation X and Baby Boomers have higher levels of anxiety about mobile payments or sharing personal data (Huang, 2023).

Perceived Risk: This is the user's cognitive assessment of the likelihood of experiencing harm, loss, or negativity as a result of the shopping process. Perceived risk associated with mobile commerce refers to consumers' predictions about the potential harm, loss, or negative outcomes they may experience during online shopping. In other words, when shopping via mobile apps, users mentally assess the possibility of "being sent the wrong

product, having their card information stolen, refund issues, or personal data misused" and shape their behavioral intentions accordingly (Gefen et al., 2003; Groß, 2015; Madan & Yadav, 2018). This perceived risk has a direct negative impact on the satisfaction level and adoption intention of mobile commerce (Natarajan et al., 2017).

Individual and Social Factors

Mobile Skills: Mobile competence refers to an individual's ability to use mobile devices effectively, quickly, and accurately. A user's level of experience with technology and digital skills directly determines the quality of the mobile shopping experience (Lu & Su, 2009; Saprikis et al., 2018). Mobile competence has a positive impact on perceived ease of use (Perceived Ease of Use) and strengthens behavioral intention by reducing anxiety. Individuals with high digital literacy perceive technical errors on mobile platforms as less threatening, which increases trust and satisfaction with technology. Generation Z users have lower anxiety levels during mobile shopping because they can quickly navigate menus, filters, and virtual payment systems in apps. Hepsiburada supports users with less mobile competence by adding "help videos" and "step-by-step shopping guides" to simplify the user process.

Compatibility: Compatibility refers to the extent to which mobile commerce apps align with an individual's values, lifestyle, and needs (Rogers et al., 2014; Lu & Su, 2009; Zerbini et al., 2022). Users more readily adopt platforms that align with their lifestyles and consumption habits. In Rogers' Diffusion of Innovation (DOI) model, compatibility is one of five key characteristics that determine the speed of adoption of an innovation (the others being relative advantage, complexity, observability, and trial availability). Getir and Yemeksepeti demonstrate high compatibility with the modern lifestyle by offering an "instant order from anywhere" experience to users with busy lifestyles. The "personal style recommendations" or "my favorite brands" section in the Trendyol app creates a shopping environment tailored to the user's individual preferences.

Innovativeness: Innovativeness refers to an individual's willingness to try new technologies, their openness to change, and their development of positive attitudes toward new digital applications (Rogers et al., 2014; Saprikis et al., 2018). An individual's willingness to try new technologies positively influences perceived ease of use and behavioral intentions (Saprikis et al., 2018). Within the framework of the Technology Readiness Index (TRI) and the Technology Acceptance Model (TAM), innovative individuals perceive the usability of new systems more quickly and play a

leading role in the development of behavioral intentions. These individuals are often described as "early adopters" (Parasuraman, 2000; Davis, 1989). NFT-based collectibles have become attractive to innovative users; users in this group are not risk averse but rather driven by a desire to "experiment with technology." Early adopters of AR (Augmented Reality) shopping features are often highly innovative users (e.g., Sephora's "Virtual Artist" or the IKEA Place app).

Social Influence: Social influence is the tendency for an individual to shape their behavior and decisions based on the attitudes of significant others, such as family, friends, and social media influencers. In the UTAUT (Unified Theory of Acceptance and Use of Technology) model, social influence is one of the four primary determinants of behavioral intention. Especially in areas with high uncertainty, such as mobile shopping, environmental validation and social examples increase users' trust (Venkatesh et al., 2003; Yang, 2010). Instagram and TikTok influencers directly influence their followers' mobile shopping decisions. Users tend to purchase products recommended by an influencer they trust. This influence is particularly translated into personalized consumption practices through opinion leaders such as "Instagram mothers," who share their motherhood experiences and build trust-based, intimate relationships with their followers (Vodinalı, 2025).

4. Design, Experience, and Relationship Management in Mobile Commerce

The design of mobile commerce applications plays a decisive role in shaping users' perceptions, emotions, and long-term engagement with brands. Beyond being a technical interface, mobile app design represents the point where psychology, aesthetics, and usability converge. A well-designed interface minimizes cognitive load, provides consistency across touchpoints, and creates an intuitive interaction environment that fosters trust and satisfaction. Similarly, studies on mobile marketing applications highlight that usability and entertainment-oriented design directly enhance satisfaction and trust formation in digital environments (Sütütemiz & Kurnaz, 2012). In this context, design is not limited to visual appeal—it serves as a behavioral trigger that guides attention, facilitates navigation, and enhances the perceived value of the shopping experience. Effective design thus functions as a strategic tool that transforms users from one-time buyers into emotionally connected and loyal participants within the mobile ecosystem.

Moreover, the quality of experience in mobile commerce depends on the synergy between relationship management, personalization, and information presentation. Personalized content, clear information architecture, and engaging interaction formats create an emotional bond that strengthens user retention and brand loyalty. Relationship drivers such as loyalty programs, mobile coupons, and data-driven recommendations foster continuity in brand–consumer interaction. At the same time, high information quality and reduced cognitive complexity improve usability and reinforce trust, preparing the ground for sustainable mobile engagement. The following sections elaborate on these dimensions—focusing first on how personalization deepens consumer relationships, then on the role of information quality and cognitive load in shaping experience, and finally on how interface design translates these dynamics into measurable behavioral outcomes.

Relationship Drivers and Personalization

Relationship Drivers: In the context of mobile shopping, relationship drivers are interaction-based factors that enable brands to establish long-term and emotionally strong bonds with consumers. This concept is considered a form of relationship marketing adapted to mobile technologies (Morgan & Hunt, 1994; Saprikis et al., 2018). Unique features offered by mobile technology, such as personalized services, mobile coupons, discounts, and location-based marketing, build strong relationships with customers and increase mobile commerce engagement and intention (Saprikis et al., 2018). This concept refers to the elements that strengthen the long-term and emotional relationship between the brand and the consumer. In other words, the focus here is on "creating interaction and commitment." These drivers foster ongoing communication and a bond of trust between the brand and the customer through tools such as personalized offers, mobile coupons, loyalty programs, and location-based campaigns. The personalization, instant communication, and data-driven interaction opportunities offered by mobile technology allow brands to expand their relationships with customers beyond the transactional level, building a foundation of continuity, loyalty, and trust. For example, in the Starbucks Rewards app, users earn stars with every purchase and can exchange these stars for free drinks. This process fosters emotional loyalty by creating a lasting connection with the brand. Similarly, Migros' mobile app encourages ongoing engagement with the brand by notifying customers about special offers at the nearest store based on their location.

Personalization: Personalization is a set of customized content, product recommendations, and service offerings created by considering an individual's preferences, behaviors, past purchase history, demographics, or interaction history. The goal is to provide each user with a unique and personalized experience and transform their interactions with the brand into an emotional bond. Services and offers tailored to consumer preferences and behaviors not only enhance the shopping experience, satisfaction, and loyalty, but also increase positive emotional responses (Ho & Tam, 2005; Pathak et al., 2010; Liu et al., 2020). Personalization has been shown to have significant positive effects on consumer arousal and enjoyment (Liu et al., 2020). The core power of personalization lies in the consumer's ability to feel recognized and valued. This feeling not only increases behavioral intention but also emotional attachment to the brand. At the cognitive level, personalization reduces information overload and increases perceived ease of use by offering consumer-friendly alternatives. At the emotional level, the feeling of personalized attention generates user satisfaction, trust, and loyalty. Netflix and Spotify's algorithmic recommendation systems present personalization as an emotional experience. "Just for you" lists convince users that the brand has a special connection with them. Trendyol and Zalando filter and prioritize products based on users' past purchase and browsing history, reducing decision-making time and increasing shopping pleasure.

Information Quality and Cognitive Load

The structural and functional features of mobile commerce platforms directly shape the user experience. These features include information quality, entertainment, visual appeal, and economic benefits.

Information: Information quality refers to users' access to accurate, up-to-date and reliable information about a product or service. Rich and readable information reinforces the decision-making process, trust, and perceived benefits (Sohn, 2017; Chen et al., 2018). Missing or incorrect information increases the perceived risk and reduces buying intent. Improve experience by providing personalized information (e.g., recommendations based on past purchases, stock alerts), raising awareness and interest (Liu et al., 2020).

Entertainment: Entertainment elements (videos, games, live broadcasts, animations) strengthen the hedonic aspect of shopping and increase user engagement (Eroglu, 2003; Richard, 2005). For example, Trendyol Live or TikTok Shop Live allow users to interact with and make purchases while streaming. Augmented reality (AR) and mini-games in the Zara and Nike apps make the experience social and fun. Fun elements increase excitement and pleasure, strengthening loyalty and satisfaction (Liu et al., 2020).

Visuality: Visual design shapes the emotional and cognitive responses of users (Adelaar et al., 2003). Colors, typography and page layout create a sense of trust and professionalism (Thakur, 2018; Tuch et al., 2012). Color psychology is an important factor: warm tones encourage impulsive purchase, while cold tones like blue and gray create a sense of confidence (Labrecque & Milne, 2013). High-resolution 360° images or AR previews reduce perceived risk and deliver a tactile experience (Flavián et al., 2021).

Economic Benefits: Promotions, discounts and special offers increase the financial satisfaction of consumers and increase their purchase motivation (Wang et al., 2022a; Liu et al., 2020). These types of economic incentives create positive emotions and impulsive behaviors.

As a result, the quality of information, entertainment, visual attractiveness and economic advantages in mobile commerce have complementary psychological effects on trust, satisfaction and purchase intention. Effective platforms maintain user loyalty by managing these factors in a balanced manner.

The Relationship Between App Design and Mobile Shopping Behavior

Mobile application design encompasses user interface (UI) structure that determines user interaction (Jung, 2017). UI is the structure in which users interact with the system via commands, menus, and interactive components (Ayob et al., 2009). Complex and non-intuitive designs increase the likelihood of application abandonment by leading to frustration, loss of time and loss of confidence (Ayob et al., 2009; Jung, 2017). Conversely, a balanced and user-friendly interface positively affects behavioral intent, emotional response, perceived benefits, and purchasing decisions.

The Effect of UI Design Quality on Behavioral Intention: User-friendly, consistent and visually balanced interfaces reinforce intent to purchase (Jung, 2017). Rich colors, eye-catching notifications, and functional buttons make the app more appealing (Fu et al., 2019). Visual preferences such as matrix-style information layout and dark mode enhance user performance (Chen & Zhai, 2023). In addition, ease of navigation, page structure and technical performance directly affect the user experience (Vance et al., 2008; Wulfert, 2019).

The Effect of UI Design on Emotions and Impulsive Buying: Entertainment, personalization, visual appeal, and economic benefits trigger impulsive buying by increasing users' enjoyment and alertness (Liu et al., 2020). Research shows that users' buying intentions significantly increased during the first 30 seconds of interacting with the interface (Chen & Zhai, 2023).

This finding highlights the emotionally stimulating effect of a well-designed interface.

The Role of UI Design on Trust and Perceived Risk: Trust building in mobile shopping is a long-term and multidimensional process (Siau & Shen, 2003). Interface layout, screen size, connection quality, and privacy risks can undermine trust (Lee & Benbasat, 2003; Li & Yeh, 2010). Lack of trust reduces buying intent, while well-designed security and privacy elements reinforce user confidence (Pavlou & Chai, 2002; Natarajan et al., 2017). Experienced users perceive errors and lack of information as less risky, which means that trust grows stronger over time (Amsl et al., 2023).

Differences in User and Designer Perceptions and Strategic Importance of Design

Perceptions of user interface (UI) design in mobile shopping apps differ significantly between users and designers. While users often prioritize rich interaction items or notifications that encourage purchasing, designers prioritize a simple and intuitive overall layout. Addressing these differences of perception is crucial to increase user satisfaction, application efficiency, and purchase intent.

Mobile shopping platforms should continuously improve key features such as information, entertainment, personalization, images, and economic benefits to effectively use limited screen space (Liu et al., 2020). In addition, evoking emotions of excitement and pleasure in consumers through content such as video animations, dynamic visuals or interactive entertainment elements stands out as an important strategy to improve the user experience.

In this context, app developers and user interface designers must take into account the concept of representative user interface design quality to understand the usability of mobile shopping applications and their impact on behavioral intentions (Jung, 2017). Providing users with a user interface that is both concise and consistently designed encourages long-term user loyalty by increasing aesthetic satisfaction and functional effectiveness.

The relationship between mobile shopping behavior and app design is a complex and dynamic interaction that deeply impacts user experience, intent to adopt, and loyalty. Effective user interface (UI) design facilitates consumers' transition to mobile shopping and triggers positive emotional responses (Jung, 2017). Well-designed apps that include ease of use, trust, personalization, and entertainment increase user satisfaction and create long-term usage habits (Thakur, 2018; Wulfert, 2019). Designers and retailers must adopt user-oriented approaches and conduct ongoing research to understand the specific preferences and expectations of various user

segments. The future of mobile shopping apps will depend on the ability to go beyond technical capabilities and create intuitive, reliable, and enjoyable designs that meet users' cognitive and emotional needs.

5. Conclusion and Evaluation

The analysis presented in this section demonstrates that mobile commerce is not merely a digitalized form of purchasing but also an experience integrated with psychological, cognitive, and emotional processes. User adoption of mobile commerce begins with functional benefits such as convenience and accessibility and continues with psychological and perceptual elements such as trust, information quality, personalization, and aesthetic design.

Literature findings indicate that the balance between trust, risk, and anxiety is central to mobile shopping behavior (Yıldırım & Türkmen Barutçu, 2016). Users' perceptions of privacy, performance, and financial risk are balanced by platform security and design simplicity. However, cognitive load and visual complexity are among the most critical design issues that negatively impact the user experience. Therefore, developing simple, intuitive, and informationally consistent interfaces increases both perceived ease of use and satisfaction.

Service quality, personalization, and relationship-focused applications (e.g., loyalty programs, coupon systems, location-based opportunities) strengthen behavioral intentions by creating an emotional bond between the consumer and the brand. Personalized experiences, in particular, reduce cognitive load by creating a sense of recognition and value in the user and encourage emotional attachment, which forms the basis of the loyalty cycle. Ultimately, the success of the mobile commerce ecosystem depends on a human-centered design approach as much as on technological functionality. The most important strategic priorities for mobile retail platforms in the future will be:

- Transparent information policies that increase user trust,
- Minimal and accessible designs that reduce cognitive load,
- Data-driven personalization and relationship marketing practices.

In this context, academic research on mobile commerce should adopt an interdisciplinary approach that integrates the dimensions of emotional experience, cognitive process management, and design psychology. This will position mobile commerce not merely as a "technological convenience" but as a holistic digital experience that redefines users' sense of identity, trust, and belonging.

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