

# The Consequences of Gamification in Mobile Commerce Platform Applications

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## ABSTRACT

Gamification in mobile apps has a research gap, given the potential for gamification to enhance user repurchase intention in a mobile commerce context. This research investigates the concept of gamified m-commerce platform application through the lenses of customer experience and repurchase intention. The study proposes an empirical model to examine the relationship between hedonic value, utilitarian value, customer experience, and repurchase intention in the context of mobile commerce platform application. It is underscoring the importance of exploring the application of gamified m-commerce platforms and their impact on customer experience and repurchase intention. The findings contribute to the existing body of literature on online retail by offering new insights into the implications of gamified m-commerce platform applications. A quantitative research approach was employed, and an online questionnaire was used to gather data. The collected data from a sample of 270 mobile commerce shoppers was analyzed. The results supported all direct hypothesized associations among variables.

## KEYWORDS

Customer experience, Gamification, Hedonic value, m-commerce platform application, Repurchase intention, Utilitarian value

## INTRODUCTION

Living in an increasingly advancing dematerialized world, where technology plays an ever more significant role, has led to a growing dependency on advanced technological systems in various aspects of our lives (Deveci et al., 2022; Gupta & Panda, 2022). This trend encompasses diverse sectors and industries, ranging from communication and commerce to healthcare and education (Singh et al., 2022). The rapid development and widespread adoption of digital technologies have reshaped the way we interact, work, and engage with the world around us (Singh et al., 2022).

In recent years, the use of emerging interactive technologies and digital platforms can enhance the shopping experience, improve consumer loyalty, and increase retailers' profitability (Siregar & Kent,

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2019). Shopping intentions are determined by a combination of extrinsic and intrinsic motivations (Van der Heijden, 2004; Syed et al., 2021; Meena & Sarabhai, 2023). However, retailers' traditional strategies based on pricing and product innovation are no longer adequate (Insley & Nunan, 2014). To optimize the customer experience, retailers need to incorporate engaging methods. Gamification has been identified as an effective approach for creating memorable customer experiences and eliciting positive game-like experiences (Naqvi et al., 2021; Kusumawardani et al., 2023). As a result, more and more companies are turning to gamification as a marketing strategy. Gamification has become a significant research topic, as it has been shown to drive user engagement, enjoyment, and retention in user-platform interaction (Hofacker et al., 2016, García-Magro et al., 2023). The incorporation of gamified, ludic, and social elements in mobile apps can reduce consumers' cognitive effort, which could give retailers a competitive advantage. In 2018, gamification generated an estimated value of \$5.5 billion and has the potential for a 600% increase in user downloads for gamified business apps (De Canio et al., 2021).

Despite its potential benefits as a powerful tool for creating an engaging environment with game-like features, the use of gamification in various settings remains understudied (Djhan et al., 2022). Only a few academic studies have explored its application in the service or marketing sectors. Moreover, the existing literature lacks a framework to predict and explain how gamification influences customer experience and repurchase intention (De-Marcos et al., 2014). As such, researchers have emphasized the need to further explore the impact of gamification on customer behavior and experiences with mobile apps (Perannagari & Chakrabarti, 2019).

Our study is groundbreaking in its explanation of the gamification phenomenon within mobile commerce platform application, offering novel insights into the role of utilitarian and hedonic value, as well as customer experience, in enhancing customer repurchase intention. Specifically, our research aims to investigate the impact of gamification on both repurchase intention and customer experience within mobile commerce platforms. Additionally, our study explores the relationship between gamification and utilitarian and hedonic value, providing further clarity on the factors driving customer behavior within these applications.

The paper is organized as follows. In the first section, we provide an overview of the literature on gamification. The second section presents the research hypotheses to be tested. Subsequently, we describe the study conducted to collect data from 270 customers of the Jumia mobile app who played games using the app. Finally, we discuss the results and offer managerial implications and suggestions for future research.

## LITERATURE REVIEW

### Gamification

The term "gamification" is relatively new, particularly in the virtual world, although the concept has been around for some time (Yang et al., 2017). It first emerged in the early 2000s (Leclercq et al., 2017) and has gained increasing attention since the early 2010s (Werbach & Hunter, 2012). The underlying idea of gamification is to leverage the motivational potential of video games by incorporating game design elements into non-game contexts or environments (Deterding et al., 2011).

The use of game design elements in non-game contexts is the core concept of gamification, as defined by Deterding et al. (2011). These game elements include challenges, levels, rewards, and stories, as described by Hamari et al. (2014) and Feng et al. (2020). Swan (2012) characterizes gamification as the process of adding game mechanics to platforms, processes, and programs that previously lacked them. When implemented effectively, gamification can enhance engagement and improve customer retention (Insley & Nunan, 2014; Hsu & Chen, 2018). Zichermann and Cunningham (2011) offer a more customer-oriented definition, describing gamification as a form of loyalty that encourages users to choose a particular service over comparable options.

When digital interactions seamlessly integrate game-like elements with marketing goals, both businesses and consumers can reap the rewards through engaging mobile marketing campaigns (Rakhmanita et al., 2022). Gamification of marketing is a fast-growing phenomenon and an innovation for mobile marketing. Gamification is a strategy for increasing the attractiveness of mobile consumers to encourage increased shopping behavior, loyalty, engagement, and product advocacy (Rakhmanita et al., 2022). Businesses leverage gamification, particularly mechanisms like points, badges, and leaderboards within loyalty programs, to boost consumer participation, brand awareness, and favorability (Li et al., 2023). For mobile shoppers, the incentive of redeemable rewards, free samples, or vouchers offered by gamified mobile marketing campaigns can be highly attractive, provided the required effort aligns with their expectations (Li et al., 2023).

Specifically, the strategic application of gamification techniques, blending enjoyable experiences with productive aims, is rapidly evolving as one of the most significant trends in m-commerce (Li et al., 2023).

In recent years, gamification has garnered significant attention from academics, practitioners, and consultants as a viable method for influencing user behavior (Dymek, 2017). It has been widely implemented across various industries and services, including banking (Rodrigues et al., 2017; Baptista & Oliveira, 2017), online travel sites (Sigala, 2015), healthcare (Hammedi et al., 2017), innovation (Leclercq et al., 2017), logistics (Warmelink et al., 2018), and fitness monitoring applications (Hamari & Koivisto, 2015). Furthermore, gamification has emerged as a marketing tool, allowing service providers to attract and engage customers in ways that positively influence their behavior (Schlager et al., 2018; Bauer et al., 2020). Recent marketing studies have underscored the potential benefits of gamification, suggesting that gamification services can increase consumer engagement and loyalty to service providers (Hammedi et al., 2017; Liu et al., 2017; Berger et al., 2017).

Gamification has been classified into three viewpoints. The first perspective is that of the designer, which has been widely agreed upon by scholars such as Deterding et al. (2011), Swan (2012), and Filsecker and Hickey (2014). This perspective defines gamification as a game-like mechanism designed for non-game contexts, primarily for commercial purposes. The second perspective on gamification pertains to the service provider's point of view. From this perspective, gamification is defined as the process by which companies convert customers' daily routines into enjoyable experiences with the aim of increasing engagement in activities and promoting sustainable behavior change (Robson et al., 2015). According to Gopinath Bharathi et al. (2016), this process makes companies more engaging and enjoyable, increasing customer loyalty and satisfaction (Harwood & Garry, 2015; Roth et al., 2015). The third perspective of gamification is the customer perspective, which sees gamification as a service improvement process that offers users play experiences to enhance the overall value creation (Huotari & Hamari, 2016), creating an experience that is based on real-world evidence and customer behavior and knowledge, placing the customer at the center of the process.

## **Relationship Between Gamification and Retail**

The retail industry is undergoing rapid disruption (Johnson et al., 2014; Shankar et al., 2021), as shopper behavior changes in response to modern technologies like apps and gamification. This presents both a challenge and an opportunity for retailers, who must strike a balance between past practices and future needs (Nilsson, 2022). Gamification has the potential to significantly impact service firms throughout the consumer decision process (Hofacker et al., 2016; Wunderlich et al., 2020), and is among the innovative technologies that retailers are adopting to stay ahead of the aggressive competition in the industry. Marketing efforts are made more efficient through the use of gamification (Sheetal et al., 2022). Retailers face challenges in encouraging customers to disclose their data, particularly when trust levels are low. Designing data requests to include relevant game elements can amplify the positive effect and increase customer engagement in a meaningful way (Bidler et al., 2020). Successfully executed gamified marketing can lead to increased brand stickiness among consumers. Fun is a key component of gamified marketing, and salespeople must provide

information and prizes that capture customers' initial attention before allowing them to participate in activities. The design of game mechanisms generates incentives like enjoyment and attraction and provides distinct feedback, enabling customers to enjoy the game and unwittingly compete for glory (Lu & Hu, 2020).

## HYPOTHESES DEVELOPMENT

### Hedonic and Utilitarian Value in Gamification

Hedonic value refers to the overall assessment of experiential benefits and satisfaction, including entertainment and leisure (Overby & Lee, 2006). Babin (1995) further described it as the emotional and entertainment value derived from the act of purchasing. In other words, consumers often engage in shopping activities not only to fulfill a task but also to enjoy the experience itself (Nurcahyo et al., 2023). On the other hand, utilitarian value is focused on the efficiency of the shopping process and relates to goal-oriented customers whose primary objective is to complete the shopping job (Kusumawardani et al., 2023).

Gamification is a technique that combines utilitarian activities with hedonic elements, according to Hamari et al. (2014) and Dicheva et al. (2019). Tobon et al. (2020) defined it as "the process of applying game design elements in non-game contexts to create enjoyable experiences". Huotari and Hamari (2016) and Högberg et al. (2019) explain that gamification aims to enhance the fun and enjoyment of tasks, often through hedonic pleasure, to encourage target behavior. Various researchers, including Seaborn and Fels (2015), and Su et al. (2016), have suggested that gamification can engage users by increasing hedonic value and creating positive experiences through game design elements. Hamari and Koivisto (2015) suggest that gamification can be viewed as a tool that employs hedonic and intrinsically motivated behavior to motivate users towards utilitarian goals and provide hedonic value. They, along with Högberg et al. (2019), further suggest that gamification can motivate and support users by generating enjoyable and useful experiences with added hedonic elements. Additionally, Csikszentmihalyi (1975) suggests that gamification adds hedonic value by enhancing the enjoyment of the experience, thus creating intrinsic motivation. Based on this literature, we propose the following hypothesis.

*Hypothesis 1 (H1):* Gamification positively influences hedonic value.

In the context of gamification, Hamari and Koivisto (2015) suggest that utilitarian value is added through the use of gamification. To meet customers' expectations, gamification tactics should combine both hedonic and utilitarian value when they seek to purchase. Van der Heijden (2004) and Shahid and Arshad (2021) proposed that gamification is primarily used with services that serve an instrumental and utilitarian purpose, with a need to achieve external goals through gamification. Thus, gamification can affect utilitarian value. According to Hamari and Koivisto (2015), gamification is a complex concept that aims to motivate people to pursue and advance utilitarian goals, which in turn enhance utilitarian value. Furthermore, in cases of gamified applications, the services at their core are intended to support and generate a utilitarian purpose (Hamari & Koivisto, 2015). Gamification is viewed as an operation to implement competitive but enjoyable experiences, and such gamified services have been shown to influence utilitarian value (Mathwick et al., 2001; Huotari & Hamari, 2016; George et al.; 2023). Based on this, we propose the following hypothesis.

*Hypothesis 2 (H2):* Gamification positively influences utilitarian value.

## Customer Experience

Enhancing customer experiences by incorporating gaming aspects into products and services has been a common strategy in recent years (Kusumawardani et al., 2023).

Customer experience is defined as the overall set of experiences that a customer goes through while purchasing or using a product or service and is considered a crucial element for companies to attract and retain customers (Becker & Jaakkola, 2020), presenting a gap in knowledge regarding how gamification influences consumer behavior and experience (Hsu & Chen, 2018). Gamification plays a crucial role in improving the consumer experience, positively influencing their repurchase intention (Silva et al., 2022). By integrating gamified elements such as rewards, challenges, and progression levels into m-commerce platforms, businesses can generate accumulated engagement among users. This creates a more immersive and entertaining shopping experience, enticing consumers to stay on the platform longer. So, by investing in gamification, companies can therefore not only improve the customer experience but also stimulate repurchase intention, thus creating a more solid and lasting relationship with their customers.

Thus, Djohan et al. (2022) and Xu et al. (2023) note that e-commerce gamification not only creates a fun experience but also rewards customers for completing specific tasks or achieving specific goals in the form of redeemed coins or vouchers. Vdov's (2020) study reveals that gamification contributes to positive emotions and experiences in digital environments and provides customers with rewards for attaining game objectives (Lee & Jin, 2019). This leads us to formulate the following hypothesis.

*Hypothesis 3 (H3):* Gamification positively influences customer experience.

## Hedonic Value and Customer Experience

Numerous studies have demonstrated that favorable evaluations of hedonic benefits have a positive impact on customers' experience through mobile applications (Bilgihan et al., 2016). Hedonic value, as noted by Bridges and Florsheim (2008) and Liu et al. (2020), is a significant goal for online consumption that influences consumer behavior. Through hedonism, customers can be more satisfied with their user experience if they perceive an intrinsic motivation to use an online tool. Thus, creating an interactive and entertaining environment that meets the emotional needs of shoppers can increase online shopping and encourage purchases by providing pleasurable shopping elements that enhance marketing effectiveness and stimulate promotional incentives. These assumptions lead to the development of the following hypothesis:

*Hypothesis 4 (H4):* Hedonic value positively influences customer experience.

## Utilitarian Value and Customer Experience

Several studies have demonstrated that utilitarian value is rational and task-oriented and can be regarded as a cognitive outcome instead of an emotional one (Jhon et al., 2006; Wang, 2022). Utilitarian value is associated with practical benefits that fulfill customers' functional needs (Rauschnabel et al., 2019). By using a mobile commerce platform application for utilitarian purposes, consumers can save time, reduce their efforts, and compare prices, which can lead to a positive evaluation of the experience (McLean et al., 2016). However, customers may experience negative emotions when using the application due to various constraints (McLean et al., 2016). Based on these findings, we propose the following hypothesis regarding the relationship between utilitarian value and customer experience.

*Hypothesis 5 (H5):* Utilitarian value positively influences customer experience.

## Repurchase Intention and Customer Experience

Repurchase intention refers to the likelihood of customers purchasing goods or services again based on their prior experience with the quality and benefits of the product (Ilyas et al., 2020). The initial purchase and usage experience can determine whether customers will have a positive or negative intention to repurchase (Amoako et al., 2021). Febriani and Ardani (2021) demonstrated that customers who have a positive impression of a product are more likely to have a memorable experience and make repeat purchases (Annisa et al., 2019). Similarly, Hasman et al. (2019) suggested that customer experience has a positive and meaningful impact on repurchase intention. Based on these premises, we propose the following hypothesis.

*Hypothesis 6 (H6):* Customer experience positively influences repurchase intention.

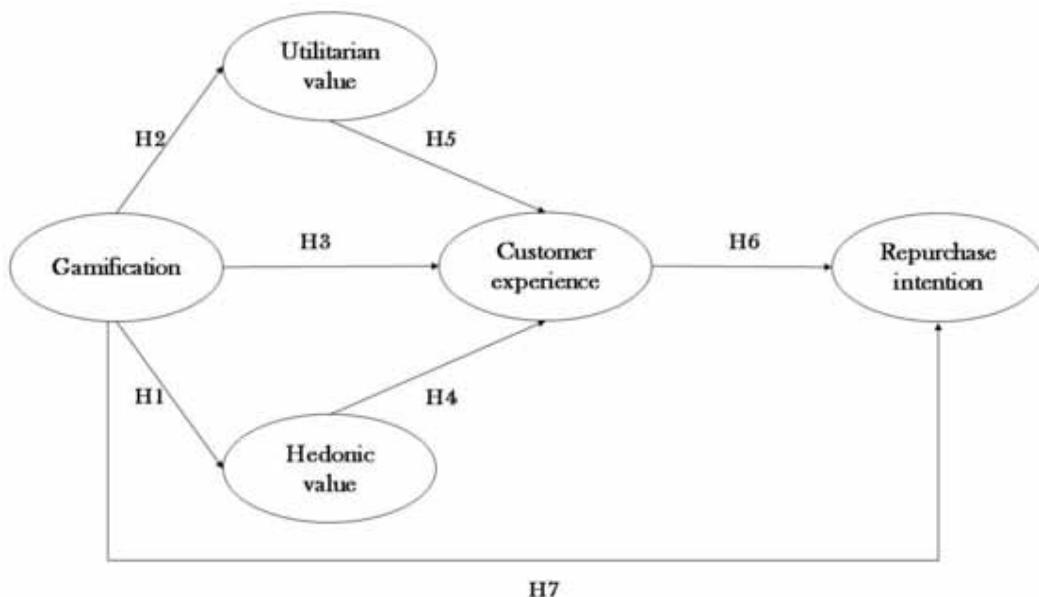
## Gamification and Repurchase Intention

The use of gamification can be an effective strategy for enhancing user intention and promoting user retention (Silic et al., 2020). Researchers have examined various dimensions that impact the likelihood of repurchase intention in different contexts (Mouakket, 2009), and have suggested leveraging gamification as a tool to influence customers' purchase decisions (Helmefalk & Marcusson, 2020; Raman, 2020) since repeated purchase intention serves as a more realistic metric for customer attitudes toward a company. Feng et al. (2020) found that customers who participate in mobile commerce activities with entertainment properties, such as games, are more likely to make repurchases. Therefore, based on the literature reviewed, we propose the following hypothesis:

*Hypothesis 7 (H7):* Gamification positively influences repurchase intention.

The proposed hypotheses were used to develop the research model shown in Figure 1.

Figure 1. Conceptual model



## METHODOLOGY

### Sample and Data Collection

To validate our theoretical model, a quantitative research approach was employed. An online survey was employed to gather empirical data. We utilized multiple item scales to enhance both the validity and reliability of the results. Participants were instructed to express their agreement or disagreement with 36 statements using a five-point Likert scale ranging from 1—*strongly disagree* to 5—*strongly agree*, with a midpoint of *neutral*. The sampling technique used was convenience sampling, employing the approach of multiplying the number of observable variables by 10 (Sorbom and Jöreskog, 1982; Akrouf, 2010), we got 270 samples. Our final sample consisted of 270 customers who had purchased and used the Jumia mobile app, without regard to their age or gender.

Jumia, an African-based e-commerce company, offers a variety of electronic, hygiene, and food products, and services, earning it the nickname “African Alibaba” or “African Amazon.” The company’s operations span more than ten African countries, including Morocco, Algeria, Tunisia, Kenya, Egypt, Uganda, Senegal, Ghana, South Africa, Nigeria, and Ivory Coast, as well as international countries like Portugal, China, and the United Arab Emirates.

The sample used in this study was a convenience sample. Descriptive statistics revealed that the sample consisted of 62.2% (N=168) female and 37.8% (N=102) male respondents. The age distribution of the sample was as follows: 10.4% of respondents were under 18 years of age, 68.5% were between 18 and 30 years of age, 11.1% were between 31 and 40 years of age, 6.7% were between 41 and 49 years of age, and 3.3% were over 50 years of age. With regard to the frequency of app use, 15.6% of respondents reported using the mobile application once a week or less, 13.3% reported using it several times a week, 21.5% reported using it once a month, 15.2% reported using it several times a month, and 34.4% reported using it once a year.

### Data Analysis

To analyze the data in this study, we will employ the Statistical Package for the Social Science (SPSS 23) and SmartPLS 4. PLS, a variance-based method, has an advantage over covariance techniques like LISREL or AMOS (Jöreskog & Wold, 1982). PLS is commonly used to evaluate hypothesized correlations in exploratory models (Mahmood et al., 2004), as well as in the context of online shopping (Ha et al., 2010; Rose et al., 2012).

### Measurement Scales

All measurement scales (see Table 1) used in this study were adopted from previous research in marketing and have demonstrated strong psychometric qualities. The scale for measuring gamification, consisting of six items, was derived from the work of Rodrigues et al. (2017). To measure hedonic value, we employed the eight-item scale developed by Babin et al. (1994). Utilitarian value was measured using the four-item scale by Lee et al. (2009). The three-item scale for measuring customer experience was adapted from Song and Zinkhan (2008), and the three-item scale used to measure repurchase intention was adapted from Fang et al. (2014).

## RESULTS

### Assessment of the Measurement Model

To assess the validity of the measurement model, we employed rigorous tests of convergent and discriminant validity. Convergent validity was evaluated by examining factor loadings, composite reliability (CR), and average variance extracted (AVE), as recommended by Hair et al. (2014).

Table 1. Constructs, items, and their alpha

Construct	Items	Cronbach's alpha
Gamification	Playing Jumia can be useful since it can give information about products. I feel pleasure in the use of Jumia with game elements. I feel good while playing a game on the Jumia application. I would like to participate in the game in Jumia. I think that Jumia with content and animated elements is secure. The Jumia mobile application should reward its customers. The experience on the Jumia was truly a joy.	0,879
Hedonic Value	Compared to other applications, time spent on Jumia was truly enjoyable. During the use of Jumia, I felt the excitement of the hunt. The Jumia experience truly felt like an escape. I enjoyed the Jumia experience for its own sake, not just for the items I may have purchased. I continue using it, not because I have to, but because I want to. I had a good time because I was able to act on the «spur of the moment. While using Jumia, I was able to forget my problems.	0,884
Utilitarian Value	The prices of the products I purchased from Jumia were at the right level, given the quality. The products I purchased from Jumia were good buy. Jumia offered a good economic value. I accomplished what I wanted to on Jumia.	0,843
Customer Experience	CE1: I am satisfied with the experience of shopping on Jumia. CE2: The experience of shopping on Jumia is exactly what I needed. CE3: The experience of shopping on the Jumia mobile application has worked out as well as I thought it would	0,841
Repurchase Intention	I'm likely going to buy online again from this mobile application in the short term. I'm likely going to buy online again from this mobile application in the medium term. I'm likely going to buy online again from this mobile application in the long term.	0,837

Our study's CR results indicated strong internal consistency, as all scales demonstrated a Cronbach's alpha value exceeding the threshold of 0.7 (see Table 2). This suggests that the items within each scale reliably measure the underlying construct.

Furthermore, we assessed the AVE of each variable, with the expectation that it should exceed 0.50 to establish acceptable convergent validity (Bagozzi & Yi, 1988). In our study, all variables surpassed this threshold, indicating that the items within each construct explain more than 50% of their respective variances. This demonstrates the convergent validity of our measurement model.

To evaluate discriminant validity, we employed the Fornell-Larcker criterion, which compares the square root of the AVE with the correlations among latent variables. Consistent with this criterion, our results demonstrated that the correlation coefficients between constructs were lower than the square root of their respective AVE values (see Table 2). This suggests that the constructs in our study are distinct from one another, supporting their discriminant validity.

Additionally, we utilized the heterotrait-monotrait ratio of correlations (HTMT) as an additional measure of discriminant validity. As shown in Table 3, all HTMT values were below the recommended threshold of 0.85. This further confirms that the constructs in our measurement model are distinct and do not overlap excessively.

Overall, our findings indicate strong support for the convergent and discriminant validity of our measurement model. The factor loadings, CR, AVE values, Fornell-Larcker criterion, and HTMT ratios collectively demonstrate that our measurement model effectively captures the distinctiveness and reliability of each construct.

**Table 2. Test of CR, AVE, and discriminant validity**

Variables	CR	AVE	Customer Experience	Gamification	Hedonic Value	Utilitarian Value	Repurchase intention
Customer Experience	0,904	0,759	0,871a				
Gamification	0,909	0,625	0,664	0,790a			
Hedonic Value	0,908	0,553	0,744	0,558	0,749a		
Utilitarian Value	0,895	0,680	0,718	0,669	0,648	0,825a	
Repurchase Intention	0,905	0,760	0,796	0,638	0,712	0,718	0,872a

**Table 3. Discriminant validity using Heterotrait-Monotrait ratios**

	Customer Experience	Gamification	Hedonic Value	Utilitarian Value	Repurchase intention
Customer Experience					
Gamification	0,764				
Hedonic Value	0,846	0,625			
Utilitarian Value	0,850	0,771	0,750		
Repurchase Intention	0,844	0,735	0,823	0,850	

*Note:* Values below the diagonal are heterotrait-monotrait ratios.

### Assessment of the Structural Model

To assess the quality of fit of the model, we considered two criteria: the coefficient of determination (R<sup>2</sup>) and the predictive relevance (Q<sup>2</sup>), as displayed in Table IV. The R<sup>2</sup> measures the accuracy of the model’s predictions by evaluating the impact of independent variables on dependent variables (Hair et al., 2014).

In our study, the R<sup>2</sup> values for all variables exceeded 0.1, indicating that the model accounted for a substantial portion of the variance in the dependent variables. Notably, repurchase intention and customer experience exhibited high R<sup>2</sup> values of 0.655 and 0.683, respectively. This suggests that the independent variables included in the model have a strong influence on these constructs. However, utilitarian and hedonic values demonstrated moderate R<sup>2</sup> values of 0.448 and 0.311, respectively, indicating a comparatively moderate level of influence on these constructs.

Moving on to predictive relevance (Q<sup>2</sup>), this measure assesses the model’s ability to predict the dependent constructs (Hair et al., 2014). A Q<sup>2</sup> value greater than zero signifies good predictive relevance for a specific construct. Our results revealed that all Q<sup>2</sup> values exceeded 0.1, indicating that the model has satisfactory predictive relevance.

Taken together, our findings demonstrate that the model achieved a significant level of accuracy in predicting the dependent variables. The R<sup>2</sup> values indicate the proportion of variance explained by the independent variables, with repurchase intention and customer experience showing particularly strong relationships. Moreover, the Q<sup>2</sup> values highlight the model’s ability to predict the dependent constructs successfully. These results reinforce the robustness of our model in capturing and explaining the relationships among the variables under investigation.

### Hypothesis Testing

To verify our hypotheses, we assessed the significance of the relationships between the variables using the p-value, the t-value, and the original sample. Specifically, we considered a relationship

Table 4. Value of R2 and Q2

	R-square (R <sup>2</sup> )	Cross validated redundancy (Q <sup>2</sup> )
Customer Experience	0,683	0.436
Hedonic Value	0,311	0.302
Utilitarian Value	0,448	0.441
Repurchase Intention	0,655	0.400

significant if the absolute value of the t-statistic was greater than 1.96 and the p-value was less than 0.05. Table 5 illustrates our findings, confirming all of our hypotheses.

## CONCLUSION AND DISCUSSION

In summary, our study makes a significant contribution to the existing literature by confirming the positive relationship between gamification and hedonic value, which is consistent with influential studies by Hsu and Chen (2018) and Högberg et al. (2019). Our findings support the idea that game-like activities on the mobile app enhance users' enjoyment, excitement, and pleasure. Additionally, we establish a significant positive correlation between gamification and utilitarian value, aligning with Hsu and Chen's (2018) research and emphasizing the potential cost savings for users. This suggests that gamification facilitates product acquisition through gameplay, leading to reduced prices or even free items, as previously discussed by Yu and Huang (2022).

Furthermore, our study builds upon the work of Lee et al. (2009) by emphasizing that utilitarian value is heightened when customers can effortlessly obtain products at a lower cost. By offering incentives and rewards through mobile app engagement, gamification directly influences utilitarian value and consumer purchasing behavior, supporting the arguments of previous researchers. Expanding our investigation to customer experience (H3), our findings align with the existing literature on the positive impact of gamification on customer experience, in line with the studies conducted by Vdov (2020) and Bitrián et al. (2021). The incorporation of gamification into the mobile app creates an enjoyable and engaging environment for customers, providing novel and entertaining activities that enhance their overall experience, as noted by Djohan et al. (2022) and Silva et al. (2023).

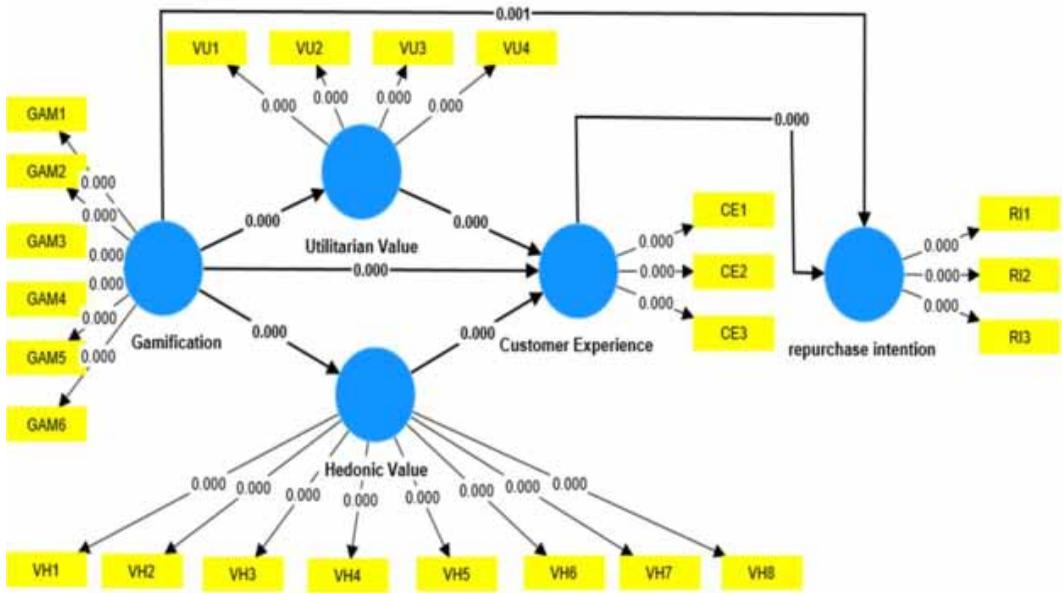
Consistent with the theoretical framework, our study establishes positive relationships between hedonic value and customer experience, supporting the findings of Naqvi et al. (2021) and Jami Pour et al. (2021). This further strengthens the evidence for the positive influence of hedonic value on

Table 5. Results of hypotheses testing

Hypotheses		Beta	P-values	T-Value	Decision
H1	Customer Experience -> repurchase intention	0,667	0,000	13,136	Supported**
H2	Gamification -> Customer Experience	0,234	0,000	4,100	Supported**
H3	Gamification -> Hedonic Value	0,558	0,000	11,527	Supported**
H4	Gamification -> Utilitarian Value	0,669	0,000	18,962	Supported**
H5	Gamification -> repurchase intention	0,195	0,001	3,359	Supported**
H6	Hedonic Value -> Customer Experience	0,439	0,000	8,087	Supported**
H7	Utilitarian Value -> Customer Experience	0,277	0,000	4,170	Supported**

Note: \*Significance level of 1%; \*\*Significance level of 5%.

Figure 2. Structural model with path coefficients



customer experience, specifically among Tunisian consumers in the context of gamification. Moreover, we find a positive relationship between utilitarian value and customer experience, aligning with Naqvi et al.'s (2021) research on the importance of utilitarian value in shaping customer experiences, particularly in the context of online shopping where engaging m-commerce platforms play a vital role. Regarding repurchase intention (H6), our findings align with the studies conducted by Febriani and Ardani (2021) and Herjanto and Amin (2020), supporting the notion that a positive customer experience is associated with an increased desire for repurchases. Furthermore, our study confirms the link between gamification and repurchase intention (H7), consistent with Djohan et al. (2022) and the argument that combining gamification with hedonic value components effectively drives consumers towards repurchasing, as suggested by Kim and Song (2020).

While our study differs from Kim and Song (2020) in finding a positive correlation between gamification and repurchase intention, as opposed to their non-significant effect, we attribute this variance to the nuanced interplay of hedonic value components within gamification. This highlights the need for further exploration in future research. To enhance the literature review, we acknowledge the importance of conducting a more comprehensive exploration of existing studies, theories, and concepts related to gamification, hedonic value, utilitarian value, customer experience, and repurchase intention. By addressing these aspects, our study aims to contribute to the ongoing discourse in this dynamic field.

In conclusion, our research not only aligns with the existing literature but also extends it by providing nuanced insights into the interrelationships among gamification, hedonic and utilitarian values, customer experience, and repurchase intention. This study serves as a valuable contribution to the field, and future research can build upon these findings to further unravel the intricacies of gamification in shaping user experiences and behaviors.

## THEORETICAL AND MANAGERIAL IMPLICATIONS

This study aims to fill the gap in research on the direct effect of gamification on repurchase intention and customer experience in the context of mobile app gamification. It also contributes to the

development of a framework to predict and explain how gamification influences customer experience and repurchase intention in this specific context. As a result, this research is an innovative endeavor to evaluate the impact of gamification on both customer experience and repurchase intention, as well as to explore the degree to which customer experience affects repurchase intention when using a gamified mobile commerce platform. Similarly, no prior study has investigated the direct impact of gamification on both repurchase intention and customer experience within the mobile application context.

The integration of gamification techniques in mobile commerce platforms offers opportunities for enhanced customer experiences and increased customer loyalty. The dematerialized nature of m-commerce also enables real-time data collection and analysis, providing insights into the effectiveness of gamification strategies. Surprising or unexpected results in this field have highlighted the influence of individual factors and the importance of careful design and implementation of gamified features. By further exploring these dynamics, researchers can continue to advance our understanding of gamification in the context of m-commerce and inform the development of effective gamification strategies for businesses.

Gamification can be utilized as a marketing tool to enhance customer experience and repurchase intention. The game feature is capable of attracting customers by providing an enjoyable game while they shop, leading to an increased frequency of visits to the app and an overall enhancement of their customer experience (Naqvi et al., 2021). Thus, managers should improve game designs by incorporating hedonic elements that can help retain customers and encourage them to revisit the application regularly (Hu & Huang, 2022). Based on the findings of this study, it can be concluded that gamification has a significant impact on utilitarian value and repurchase intention. Therefore, it is recommended that managers should consider incorporating a reward system that provides customers with incentives for playing games, which can be used for future purchases. This can motivate customers to make additional purchases as a way of redeeming the rewards they earned. Based on the findings of this study, it is recommended that marketing managers incorporate gamification elements such as points and badges into their m-commerce applications to enhance consumers' perceived enjoyment and ultimately their hedonic value (Hassan & Hamari, 2019).

By embracing gamification, businesses can create immersive and enjoyable mobile experiences, enhancing customer satisfaction and fostering a positive brand perception. Furthermore, the careful alignment of gamification mechanisms with specific customer behaviors can incentivize desired actions, thereby driving repurchase intentions. For instance, redeemable rewards, free samples, and vouchers offered through gamified mobile marketing campaigns can effectively attract and retain mobile shoppers, provided that the level of engagement required is perceived as reasonable by the users.

## **LIMITATIONS AND FUTURE RESEARCH**

This study acknowledges certain limitations that should be considered, which in turn provide valuable insights for future research in the field. Firstly, it is important to recognize that the sample size of 270 respondents and the exclusive focus on the Tunisian context may restrict the generalizability of the findings to other countries with distinct information and communication technologies, cultures, and customer experiences. To overcome this limitation, future research endeavors could be directed towards conducting cross-cultural studies, encompassing diverse cultural contexts, to validate and extend the tested model. By doing so, the generalizability of the findings can be enhanced, ensuring a more comprehensive understanding of the impact of gamification on repurchase intentions across various settings.

Secondly, the study's concentration on a specific online retail platform, namely the Jumia mobile app, might limit the applicability of the findings to other online contexts, such as websites. To address this limitation, future research could explore the impact of gamification in different online environments and service domains. This broader scope will enable researchers to gain a more

comprehensive understanding of how gamification influences customer experience and repurchase intentions across a wider range of platforms.

Furthermore, the study primarily focused on current customers, potentially overlooking insights from potential customers. To overcome this limitation, future research could adopt a customer segmentation approach and investigate the theoretical model among both current and potential customers simultaneously. This inclusive approach would allow for a more holistic understanding of the impact of gamification on repurchase intentions, providing insights into the influence of gamified experiences on both existing and prospective customers.

Additionally, the study did not differentiate between specific game types within the gamified environment, which may have implications for the accuracy of the results. To address this limitation, future research can delve into the characteristics and mechanics of different game types and their impact on customer experience and repurchase intentions. By exploring specific game types, researchers can uncover deeper insights into how distinct elements of gamification influence customer behavior and loyalty.

Lastly, while the study employed a positivist approach and quantitative methodology, it is worth considering the inclusion of qualitative methods to complement the findings. Future research could incorporate a mixed-methods approach, allowing for the collection of rich qualitative data that uncover additional insights into user experiences and motivations in gamified environments. This methodological expansion will provide a more comprehensive understanding of the phenomenon, combining statistical evidence with nuanced qualitative perspectives.

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