The Impact of Mobile Application Marketing on Brand Image through Improved User Experience: A Case Study of the Djezzy App

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Abstract

This study aims to examine the impact of mobile application marketing on brand image, emphasizing the mediating role of user experience. Using the Djezzy App as a case study, the research adopts a quantitative explanatory approach. Data were collected from 391 users through a structured electronic questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with Smart PLS 4.1.1.1.

The empirical results reveal that mobile application marketing exerts both direct and indirect effects on brand image through user experience, explaining 44% of the variance in user experience and 40% in brand image. The findings underscore the strategic importance of integrating personalized, engaging, and user-centered marketing initiatives within mobile apps to enhance brand perception and customer loyalty. It is recommended that telecom operators allocate greater resources to improving app usability, design, and personalization, as these factors can reduce churn, increase engagement, and ultimately strengthen brand image in a competitive digital market.

Keywords: Mobile Application Marketing; Brand Image; User Experience; telecommunications; Djezzy App.

Jel Classification Codes: M31, M37, L86, D91, L96.

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1. Introduction

The world today is witnessing rapid technological advancement, bringing about fundamental transformations in marketing practices. (Taher, 2024) Mobile devices and their applications have become essential pillars for engaging with customers and delivering offers and services in innovative and efficient ways. With the widespread adoption of smartphones and the growing dependence on the internet, mobile application marketing has emerged as a powerful tool that enables companies to strengthen customer relationships and foster loyalty by providing a personalized and seamless user experience, while simultaneously shaping a positive brand image. (Tong, Luo, & Xu, 2020)

In the telecommunications sector, mobile application marketing holds particular significance, as mobile apps serve as direct and interactive platforms for service delivery, customer engagement, and the implementation of promotional activities all of which contribute to enhancing the brand image. Within the Algerian context, the Djezzy App represents a relevant and illustrative example of how digital technologies can be leveraged to improve user experience and strengthen brand perception. Djezzy is one of Algeria's leading telecommunications operators and a key player in the country's emerging digital economy. The company has been at the forefront of technological innovation and digital transformation, offering a wide range of mobile and internet services to millions of subscribers nationwide. The Djezzy App reflects this strategic orientation, serving not only as a service delivery platform but also as a core component of the company's branding strategy aimed at enhancing user experience, convenience, and satisfaction factors that collectively contribute to reinforcing its brand image in a highly competitive telecommunications market. From this perspective, our research problem can be formulated as follows:

What is the impact of mobile application marketing on the brand image of Djezzy through improved user experience?

Research Hypotheses

- **H_0 1:** There is no statistically significant impact of mobile application marketing on the brand image of Djezzy.

- **H_0 2:** There is no statistically significant impact of mobile application marketing on the user experience of Djezzy.
- **H_0 3:** There is no statistically significant impact of user experience on the brand image of Djezzy.
- **H_0 4:** There is no statistically significant impact of mobile application marketing on the brand image of Djezzy through user experience.

Research Objectives

- To analyze the effect of mobile application marketing on user experience.
- To examine the effect of user experience on brand image.
- To test the mediating role of user experience in the relationship between mobile application marketing and brand image.
- To provide practical recommendations for improving digital marketing strategies via mobile applications.

Research Importance

This study gains its importance from addressing one of the recent topics in the field of digital marketing mobile application marketing through the case study of the Djezzy App. Its scientific significance lies in filling a research gap related to understanding the mechanisms through which such applications influence user experience and brand image in emerging market contexts. Its practical significance stems from providing companies, especially in the telecommunications sector, with insights and actionable recommendations to improve their services and enhance customer loyalty.

Structure of the Study

The study is divided into two main parts:

- **Theoretical Part:** This section reviews the theoretical literature related to the study's topic, presents previous studies, and highlights the added value of the current research.
- **Applied Part:** This section presents the research methodology, analyzes the survey data using Smart PLS, and discusses the findings obtained from the empirical analysis.

2. Theoretical and Empirical Literature Review

2.1. Theoretical Background

2.1.1. Mobile Application Marketing

Mobile application marketing refers to a set of strategies and practices aimed at promoting products or services through mobile applications, with the objective of attracting, engaging, and retaining users. It goes beyond mere advertising to encompass a holistic approach that integrates promotional activities, personalized communication, and transactional features within the app environment. (Grewal, Hulland, Kopalle, & Karahanna , 2020) In the telecommunications sector, mobile application marketing functions as both a promotional channel and a direct digital interface, enabling service delivery, customer engagement, and brand positioning. Through features such as tailored content, exclusive offers, loyalty programs, and push notifications, mobile applications transform into powerful marketing platforms that foster customer loyalty and long-term brand relationships. (Tidström & Rajala, 2016)

In this study, mobile application marketing is conceptualized as a multidimensional construct comprising the following three dimensions:

- In-App Promotional Strategies: The implementation of targeted offers, discounts, and promotional campaigns directly within the app to stimulate customer engagement and purchases.
- Personalized Marketing: The delivery of customized messages, recommendations, and loyalty incentives tailored to the user's preferences and behavior.
- Transactional and Sales Features: The integration of convenient, secure, and exclusive purchasing or subscription options within the app to facilitate seamless transactions and enhance customer value.

2.1.2. Brand Image

Brand image refers to the set of perceptions, associations, emotions, and beliefs that consumers hold regarding a particular brand. It is shaped over time through direct experiences, marketing communications, word-of-mouth, and digital presence. (Keller, 1993) In the digital age, mobile applications contribute significantly to brand image formation by acting as

a tangible representation of the company's values, technological capability, and customer orientation. (Hsu, Lin, & Chiang, 2013)

In this study, brand image is conceptualized as a multidimensional construct encompassing the following three dimensions:

- Trust in the Brand: The degree to which users believe the brand is reliable, honest, and professional.
- Positive Perception: Users' overall impressions and emotional evaluations of the brand based on interactions via the app.
- Loyalty Intention: The user's willingness to continue using the brand's services and recommend them to others.

2.1.3. User Experience

User experience refers to the overall experience a user has when interacting with a mobile application, encompassing usability, emotional response, satisfaction, and behavioral intentions. It is a key factor in determining digital engagement and long-term app retention. (Venkatesh, Thong, & Xu, 2012) In mobile telecom applications, user experience bridges the gap between functional service delivery and customer satisfaction, making it a critical determinant of brand perception and user behavior. (Kang, Tang, & Fiore, 2014)

In the present study, user experience is operationalized through three interrelated dimensions:

- Design Attractiveness: The visual and aesthetic appeal of the app, including layout, color schemes, and navigation design.
- Perceived Control: The extent to which users feel in control while navigating and customizing app features.
- Satisfaction with Use: The user's cognitive and emotional response to app performance, reflecting whether expectations were met or exceeded.

2.2. Empirical Literature Review

2.2.1. Previous Studies

"**The importance of mobile applications for companies' brand image : A study using structural equations**"

This study, conducted in Brazil, employed structural equation modeling to analyze how mobile apps affect brand image. The findings revealed that mobile applications contribute significantly approximately 30.5% to the formation of a brand's image, highlighting the strategic importance of

mobile platforms in brand management. (Mariano, Silva, Mello, & Santos, 2022)

"**The effect of benefits generated from interacting with branded mobile apps on consumer satisfaction and purchase intentions**"

Conducted in Jordan with a sample of 358 participants, this study used AMOS to assess how app-based benefits such as entertainment and learning impact satisfaction and purchase intent. The results showed that interactive features and perceived value play a key role in shaping consumer attitudes and loyalty. (Alnawas & Aburub, 2016)

"**Mediating effects of user experience usability : An empirical study on mobile library application in China**"

This study explored how user experience usability mediates the relationship between system quality and user-perceived benefits. It confirmed that usability strongly enhances the connection between app functionality and user satisfaction. (Ping & Fu , 2018)

2.2.2. Research Gap and Contribution of the Study

While several previous studies have confirmed the positive impact of mobile applications on consumer satisfaction, purchase intention, and engagement, there remains a noticeable gap in the literature regarding the indirect relationship between mobile application marketing and brand image. Specifically, the mediating role of user experience in this relationship has not been adequately explored in empirical models. Furthermore, most existing research has focused on general app categories or sectors such as retail, education, or libraries, with limited attention given to telecommunication applications especially in the context of real-world marketing campaigns. This creates a need for contextualized research that examines how mobile app features, promotional content, and user engagement collectively shape the brand image within the telecom industry.

This study contributes to the existing body of knowledge by addressing the identified research gap through the development and testing of a mediated structural model, in which mobile application marketing influences brand image through user experience. It provides a sector-specific perspective by focusing on the Djezzy App, a widely used mobile application in Algeria’s telecom market. The study is also distinct in its

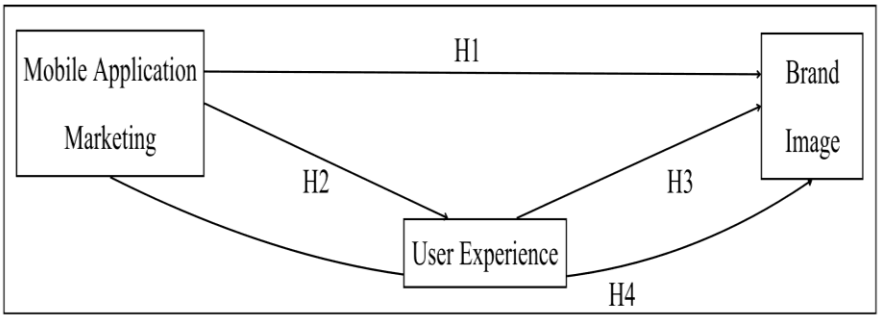
empirical setting, as it collects data during a live promotional campaign (Djezzy Legend) in a public, tourism-based context (Stora Port and Rusica Park). Additionally, it applies PLS-SEM to examine multidimensional constructs, offering methodological rigor and practical insights for telecom companies seeking to enhance app-based customer experiences and improve their digital brand perception.

3. Research Methodology

3.1. Research Design

This study adopts a quantitative explanatory causal research design aimed at analyzing the relationships between mobile application marketing, user experience, and brand image. The purpose is to develop a conceptual model that examines how the dimensions of mobile application marketing influence the perceived brand image of users, with user experience serving as a mediating variable. The research focuses on the Djezzy App, a mobile application developed by the Algerian telecom operator Djezzy, widely used across the country to manage mobile services. A descriptive and analytical approach was employed to assess the structural relationships among the study variables using data collected through a structured questionnaire distributed to a sample of Djezzy App users. The conceptual model of the study is illustrated in Figure 1:

Figure 1. Conceptual Model of the Study



Source: Developed by the authors.

3.2. Population and Sample: The study targeted users of the Djezzy App who participated in the promotional campaign for the Djezzy Legend offers during the summer of 2025 at Stora Port and the Rusica Park tourist complex in Skikda. A convenience sampling method was employed,

including only individuals who had been using the app for at least six months. The final valid sample consisted of 391 respondents, which satisfies the statistical requirements for Structural Equation Modeling (SEM) using Smart PLS. The sample included users from various Algerian provinces, ensuring demographic diversity for meaningful analysis.

3.3. Data Collection Procedure: Data were collected through an electronic questionnaire specifically developed for the purpose of this study. The questionnaire was made accessible via QR codes placed at strategic locations within Stora Port and the Rusica Park tourist complex in Skikda Province, during the Djezzy Legend promotional campaign in the summer of 2025. The data collection period extended from July 15 to August 15, 2025, under the supervision of the research team in collaboration with the local site managers. A total of 413 questionnaires were received, of which 22 were excluded due to invalid responses, resulting in 391 valid questionnaires retained for the final statistical analysis.

3.4. Measurement Scales: The questionnaire used in this study was developed based on validated measurement scales from recent literature in mobile application marketing, user experience, and brand image. All constructs were conceptualized as multidimensional with three dimensions identified for each main variable.

– Mobile Application Marketing was measured through: In-App Promotional Strategies, Personalized Marketing and Transactional and Sales Features.
– User Experience included: Design Attractiveness, Perceived Control, and Satisfaction with Use.
– Brand Image was assessed using: Trust in the Brand, Positive Perception, and Loyalty Intention.

Each dimension was operationalized through four reflective indicators, resulting in 36 items. A five-point Likert scale was employed, ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Academic experts in marketing and digital user behavior reviewed the instrument, and a pilot test was conducted to ensure clarity, validity, and reliability of the items.

3.5. Data Analysis Techniques: Data analysis was performed using SmartPLS 4.1.1.1, following the Partial Least Squares Structural Equation

Modeling PLS-SEM approach. This method was selected over CB-SEM because it is more suitable for exploratory research models, complex relationships, and studies with moderate sample sizes. The analysis involved two main stages: first, assessing the measurement model in terms of reliability and validity (indicator reliability, internal consistency, convergent and discriminant validity); and second, evaluating the structural model to estimate the relationships among mobile application marketing, user experience, and brand image. The mediating role of user experience was also tested. Model quality was further examined using R^2, f^2, and Q^2 values, while hypothesis testing relied on t-values and p-values derived through bootstrapping.

3.6. Descriptive Statistics: This section presents the demographic profile of the respondents who participated in the field survey conducted during the Djezzy Legend promotional campaign at Stora Port and Rusica Park in Skikda Province. The demographic characteristics include variables such as gender, age group, educational level, duration of Djezzy App usage, and frequency of use, as summarized in Table 1.

Table 1. Demographic Profile of the Sample (N = 391)

Variable	Categories	Frequency (n)	Percentage (%)	Total
Gender	Male	276	70.6%	100%
	Female	115	29.4%	
Age Group	Less than 35 years	153	39.1%	100%
	35 to 50 years	168	42.9%	
	Over 50 years	70	17.9%	
Educational Level	Secondary	50	12.8%	100%
	Vocational/Technical	102	26.1%	
	University Degree	217	55.5%	
	Postgraduate	22	5.6%	
Duration of App Use	Less than 6 months	131	33.5%	100%
	6 months to 1 year	155	39.6%	
	More than 1 year	105	26.9%	
Frequency of Use	Rarely	102	26.1%	100%
	Occasionally	142	36.3%	
	Regularly	147	37.6%	

Source: Authors' own elaboration based on survey data.

Table 1 presents a summary of the demographic characteristics of the 391 Djezzy App users who participated in the field survey conducted during the Djezzy Legend promotional campaign at Stora Port and the Rusica Park tourist complex in the summer of 2025. The findings show that male respondents constituted the majority of the sample (70.6%), and that most participants were between 35 and 50 years old (42.9%), reflecting a digitally active and engaged age group. In terms of education, the majority held a university degree (55.5%), indicating a relatively well-educated user base. Regarding the duration of app usage, the largest proportion of respondents (39.6%) had been using the Djezzy App for six months to one year, while regular use was the most common usage pattern (37.6%). Overall, these results suggest that Djezzy App users are generally young, educated, and digitally active individuals

4. Empirical Results

4.1. Measurement Model Evaluation

4.1.1. Indicator Reliability and Convergent Validity

The measurement model was assessed through indicator reliability, internal consistency, and convergent validity. Outer loadings above 0.70 indicated good indicator reliability, while Composite Reliability and Cronbach's Alpha values above 0.70 confirmed internal consistency. Convergent validity was supported as all AVE values exceeded the 0.50 threshold. (Hair et al., 2021)

Table 2. Results of the Measurement Model Assessment

Variable		Item Indicators	Type of Measure	Item Loadings	Composite Reliability	Cronbach Alpha	AVE
Mobile Application Marketing	In-App Promotional Strategies	MA-PS 1	Reflective	0.782	0.843	0.796	0.573
		MA-PS 2		0.768			
		MA-PS 3		0.726			
		MA-PS 4		0.731			
	Personalized Marketing	MA-PM 1	Reflective	0.764	0.837	0.772	0.563
		MA-PM 2		0.743			
		MA-PM 3		0.728			
		MA-PM 4		0.739			
	Transactional and Sales Features	MA-SF 1	Reflective	0.742	0.825	0.756	0.547
		MA-SF 2		0.739			
		MA-SF 3		0.711			
		MA-SF 4		0.722			

User Experience	Design Attractiveness	UX-DA 1	Reflective	0.756	0.857	0.802	0.602
		UX-DA 2		0.776			
		UX-DA 3		0.715			
		UX-DA 4		0.737			
	Perceived Control	UX-PC 1	Reflective	0.790	0.839	0.778	0.596
		UX-PC 2		0.768			
		UX-PC 3		0.721			
		UX-PC 4		0.727			
	Satisfaction with Use	UX-SU 1	Reflective	0.746	0.804	0.735	0.581
		UX-SU 2		0.732			
		UX-SU 3		0.708			
		UX-SU 4		0.718			
Brand Image	Trust in the Brand	BI-TB 1	Reflective	0.734	0.816	0.764	0.561
		BI-TB 2		0.752			
		BI-TB 3		0.717			
		BI-TB 4		0.732			
	Positive Perception	BI-PP 1	Reflective	0.739	0.828	0.744	0.548
		BI-PP 2		0.758			
		BI-PP 3		0.707			
		BI-PP 4		0.729			
	Loyalty Intention	BI-LI 1	Reflective	0.745	0.832	0.771	0.584
		BI-LI 2		0.762			
		BI-LI 3		0.721			
		BI-LI 4		0.736			

Source: Outputs of statistical analysis using Smart PLS software.

The results in Table 2 show that all indicator loadings exceed the recommended threshold of 0.70, ranging from 0.707 to 0.790, which confirms acceptable indicator reliability for all sub-dimensions. This demonstrates that each item is strongly correlated with its respective latent construct. Regarding internal consistency reliability, the Composite Reliability (CR) values range from 0.804 to 0.857, while Cronbach's Alpha values fall between 0.735 and 0.802, all exceeding the minimum recommended value of 0.70 (Hair et al., 2021). These values indicate a solid level of internal consistency among the items measuring each construct. For convergent validity, the Average Variance Extracted (AVE) values are between 0.547 and 0.602, all above the threshold of 0.50, indicating that more than half of the variance in the indicators is explained by their associated constructs.

4.1.2. Discriminant Validity

To assess discriminant validity, the Fornell–Larcker criterion was used, which requires that the square root of each construct's AVE be greater than its correlations with other constructs, confirming that each construct is distinct from the others.

Table 3. Fornell-Larcker Discriminant Validity

	MA-PS	**MA-PM**	**MA-SF**	**UX-DA**	**UX-PC**	**UX-SU**	**BI-TB**	**BI-PP**	**BI-LI**
MA-PS	**0.757**								
MA-PM	0.502	**0.750**							
MA-SF	0.476	0.601	**0.740**						
UX-DA	0.513	0.619	0.593	**0.776**					
UX-PC	0.504	0.527	0.488	0.511	**0.772**				
UX-SU	0.489	0.501	0.466	0.482	0.592	**0.762**			
BI-TB	0.474	0.492	0.456	0.479	0.561	0.549	**0.749**		
BI-PP	0.482	0.498	0.473	0.495	0.572	0.558	0.584	**0.740**	
BI-LI	0.491	0.509	0.487	0.498	0.578	0.566	0.595	0.588	**0.764**

Source: Outputs of statistical analysis using Smart PLS software.

The results in Table 3 show that the square root of the Average Variance Extracted (AVE) for each construct (highlighted on the diagonal) is greater than its correlations with any other construct in the model. This confirms that all constructs meet the Fornell–Larcker criterion, demonstrating adequate discriminant validity. Therefore, each construct is empirically distinct, supporting the validity of the measurement model and allowing the analysis to proceed to the structural model assessment.

4.2. Structural Model Evaluation

4.2.1. Path Coefficients

Path coefficient analysis was conducted to examine the relationships among the study constructs, indicating the strength, direction, and significance of the connections in the structural model. The results are presented in the table below.

Table 4. Results of Path Analysis

Path Relationship	Path Coefficient (β)	t-value	p-value	Confidence Interval
Mobile Application Marketing → User Experience	0.436	5.482	0.000	[0.309; 0.567]
User Experience → Brand Image	0.384	4.865	0.000	[0.248; 0.511]
Mobile Application Marketing → Brand Image	0.261	3.542	0.000	[0.124; 0.392]

Source: Outputs of statistical analysis using Smart PLS software.

All direct paths in the structural model are statistically significant, with p-values equal to 0.000 and t-values exceeding the 1.96 threshold, confirming the robustness of the relationships. Furthermore, the 95% confidence intervals for all paths do not include zero, ensuring the reliability of the estimated effects.

Specifically, mobile application marketing has a strong positive effect on user experience ($\beta = 0.436$, $t = 5.482$), indicating that effective in-app promotional strategies, personalized marketing, and transactional features significantly enhance users' interaction and satisfaction with the application. In turn, user experience exerts a substantial positive influence on brand image ($\beta = 0.384$, $t = 4.865$), showing that engaging and satisfying app experiences foster more favorable perceptions of the brand.

Moreover, the direct relationship between mobile application marketing and brand image ($\beta = 0.261$, $t = 3.542$) is also significant, though weaker than the indirect effect through user experience. This highlights the dual impact of mobile application marketing, both directly and via improved user experience, in shaping the overall brand perception.

Collectively, these findings provide strong empirical support for the proposed structural relationships and underscore the importance of enhancing mobile app marketing strategies to strengthen both user engagement and brand positioning.

4.2.2. Mediating Role of User Experience: To examine whether user experience mediates the relationship between mobile application marketing and brand image, an indirect effect analysis was conducted using the

bootstrapping method.

Table 5. Results of Indirect Effect Analysis

Path Relationship	Path Coefficient (β)	t-value	p-value	Confidence Interval
Mobile Application Marketing → User Experience → Brand Image	0.167	3.842	0.000	[0.092; 0.251]

Source: Outputs of statistical analysis using Smart PLS software.

The results presented in Table 5 indicate that user experience significantly mediates the relationship between mobile application marketing and brand image. The indirect effect is statistically significant (β = 0.167, t = 3.842, p = 0.000), and the 95% confidence interval [0.092; 0.251] does not include zero, confirming the existence of a mediation effect. This finding suggests that the positive influence of mobile application marketing on brand image is not solely direct but also occurs indirectly through enhanced user experience. In other words, effective in-app promotions, personalized marketing, and transactional features that improve users' interaction, satisfaction, and perceived control within the app contribute substantially to shaping a stronger and more favorable brand image. Given that the direct path remains significant, the mediation is partial, indicating that user experience complements the direct influence of mobile application marketing on brand image.

4.2.3. Coefficient of Determination (R^2): The Coefficient of Determination (R^2) shows how much of the variance in a dependent variable is explained by the independent variables in the model. It reflects the model's explanatory power, with values of 0.75 or higher considered substantial, 0.50 moderate, and 0.25 weak (Hair et al., 2021). The adjusted R^2 offers a more conservative estimate by accounting for the number of predictors.

Table 6. R^2 and Adjusted R^2 Values

Endogenous Variable	R^2	Adjusted R^2	Effect Size
User Experience	0.443	0.437	Moderate
Brand Image	0.397	0.389	Moderate

Source: Outputs of statistical analysis using Smart PLS software.

The results in Table 6 reveal that the model explains 44.3% of the variance in User Experience and 39.7% of the variance in Brand Image.

Based on the thresholds suggested by Hair et al. (2021), these values indicate a moderate explanatory power. The adjusted R^2 values (0.437 and 0.389, respectively) are slightly lower, providing a more conservative estimate after accounting for the number of predictors. Overall, the model demonstrates a satisfactory level of predictive accuracy, suggesting that the independent variables offer a meaningful explanation of the dependent constructs.

4.2.4. Effect Size (f^2): The Effect Size (f^2) measures the impact of each exogenous construct on an endogenous construct by assessing the change in R^2 when the exogenous variable is removed from the model. According to Hair (Hair et al., 2021), f^2 values of 0.02, 0.15, and 0.35 are interpreted as small, medium, and large effects, respectively.

Table 7. Effect Size (f^2) for Structural Paths

Structural Path	f^2 Value	Effect Size
Mobile Application Marketing → User Experience	0.462	Large
User Experience → Brand Image	0.387	Large
Mobile Application Marketing → Brand Image	0.176	Medium

Source: Outputs of statistical analysis using Smart PLS software.

The results presented in Table 7 indicate that the effect size (f^2) for the path from Mobile Application Marketing to User Experience is 0.462, which is classified as large, highlighting the strong influence of mobile application marketing on user experience. Similarly, the path from User Experience to Brand Image shows a large effect size (0.387), confirming that improvements in user experience substantially enhance brand image. In contrast, the path from Mobile Application Marketing to Brand Image exhibits a medium effect size (0.176), suggesting that the influence of mobile application marketing on brand image is more pronounced when it operates through user experience rather than directly.

4.2.5. Predictive Relevance (Q^2):

Predictive relevance (Q^2) assesses the model's ability to accurately predict the endogenous constructs. Using the blindfolding procedure, Q^2 values above zero indicate that the model has predictive relevance for a given construct. (Hair et al., 2021)

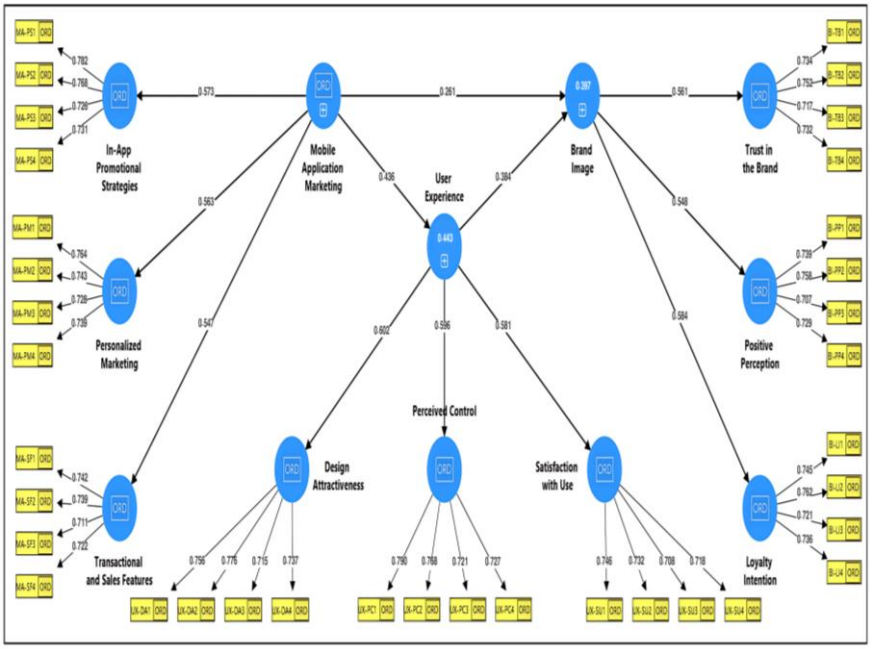
Table 8. Predictive Relevance (Q^2)

Endogenous Construct	Q^2 Value	Predictive Relevance
User Experience	0.287	Medium
Brand Image	0.412	High

Source: Outputs of statistical analysis using Smart PLS software.

The results in Table 8 reveal that the Q^2 value for User Experience (0.287) indicates a medium level of predictive relevance, whereas the Q^2 value for Brand Image (0.412) demonstrates high predictive relevance. These findings confirm that the proposed model possesses strong predictive capability for the endogenous constructs, thereby reinforcing the robustness and reliability of the model in explaining the observed data within the applied context of this study.

Figure 2. Final Structural Model of the Study



Source: Outputs of statistical analysis using Smart PLS software.

4.3. Hypotheses Testing

The table below presents the hypothesis testing results, showing the path coefficients, t-values, p-values, and the corresponding statistical decisions.

Table 9. Hypotheses Testing

Hypothesis	Path	Path Coefficient (β)	T-value	P-value	Decision
$H_0$1	Mobile Application Marketing → Brand Image	0.261	3.542	0.000	Not Supported
$H_0$2	Mobile Application Marketing → User Experience	0.436	5.482	0.000	Not Supported
$H_0$3	User Experience → Brand Image	0.384	4.865	0.000	Not Supported
$H_0$4	Mobile Application Marketing → User Experience → Brand Image	0.167	3.842	0.000	Not Supported

Source: Outputs of statistical analysis using Smart PLS software.

As shown in Table 9, all hypothesized relationships in the structural model are statistically significant. Specifically, the direct effect of mobile application marketing on brand image is significant (β = 0.261, t = 3.542, p = 0.000), leading to the rejection of H_0 1. Similarly, H_0 2 is rejected, as mobile application marketing has a strong positive effect on user experience (β = 0.436, t = 5.482, p = 0.000). The impact of user experience on brand image is also statistically supported (β = 0.384, t = 4.865, p = 0.000), resulting in the rejection of H_0 3. Finally, the indirect relationship through the mediating variable user experience is significant (β = 0.167, t = 3.842, p = 0.000), confirming the mediating role of user experience and leading to the rejection of H_0 4. These findings collectively support the proposed theoretical model, confirming the presence of both direct and indirect effects, and highlighting the importance of mobile application marketing and user experience in shaping the brand image of Djezzy.

5. Results and discussions

The analysis of the structural model confirms that mobile application marketing plays a key role in enhancing the brand image of Djezzy, both directly and indirectly through the improvement of user experience.

The results show a strong and significant relationship between mobile application marketing and user experience (β = 0.436, t = 5.482, p = 0.000). This indicates that the app's marketing strategies ranging from offering

timely promotions and exclusive deals to delivering personalized content aligned with users' preferences have succeeded in making interactions with the application more engaging and satisfying. Users perceive the app not merely as a service tool but as a dynamic platform that anticipates their needs and provides relevant, value-added propositions. The seamless integration of payment options and the ease of activating or managing services further reduce friction in the customer journey, creating a sense of convenience and reliability that strengthens the overall experience.

Furthermore, user experience significantly influences brand image ($\beta = 0.384$, $t = 4.865$, $p = 0.000$). The findings suggest that when the application offers a visually appealing interface, intuitive navigation, and clear service information, it conveys an image of professionalism and modernity that reflects positively on the brand. The feeling of control during navigation, coupled with the app's ability to consistently meet or exceed expectations, fosters trust and a positive emotional connection. In turn, this reinforces the perception of Djezzy as a brand that values innovation, customer satisfaction, and ease of access to its services.

The direct path from mobile application marketing to brand image ($\beta = 0.261$, $t = 3.542$, $p = 0.000$) also proved significant, suggesting that effective marketing communication within the app can shape brand perceptions independently of user experience. Strategic use of promotional campaigns, targeted offers, and brand-consistent messaging inside the app appears to contribute directly to a stronger market image, positioning Djezzy as competitive and customer-focused.

The mediation analysis confirmed that user experience partially mediates the relationship between mobile application marketing and brand image ($\beta = 0.167$, $t = 3.842$, $p = 0.000$). This means that while marketing initiatives in the app can directly enhance the brand image, their impact becomes even more pronounced when they simultaneously improve the user's interaction with the app. Positive experiences such as smooth service activation, easy access to relevant offers, and the overall satisfaction derived from app use serve as reinforcing mechanisms that strengthen brand perceptions.

The model's performance indicators support these findings, with moderate explanatory power ($R^2 = 0.443$ for user experience and $R^2 = 0.397$ for brand image), large to medium effect sizes ($f^2 = 0.462, 0.387, 0.176$), and good predictive relevance ($Q^2 = 0.287$ for user experience, 0.412 for brand image). These results confirm that the proposed model is both robust and capable of offering reliable insights into how mobile application marketing shapes brand image through the lens of user experience.

These findings are consistent with several previous studies that have examined similar relationships. For instance, Mariano et al. (Mariano, Silva, Mello, & Santos, 2022) found that mobile applications significantly contribute by nearly 30.5% to the formation of a company's brand image, which aligns with the current study's confirmation of the strategic role of app-based marketing in building brand equity. Alnawas and Aburub (Alnawas & Aburub, 2016) highlighted that the interactive and hedonic benefits provided by branded mobile applications enhance consumer satisfaction and purchase intention, supporting the present finding that engaging and value-driven app interactions foster a positive user experience and strengthen brand perceptions. Furthermore, Ping and Fu (Ping & Fu , 2018) demonstrated the mediating role of user experience usability in linking system quality to user-perceived benefits. This finding is echoed in the current study, where user experience partially mediates the relationship between mobile application marketing and brand image, underscoring the importance of app usability and perceived ease in shaping brand evaluations.

From a managerial standpoint, these results underline the importance of integrating personalized and engaging marketing strategies within mobile applications, while ensuring that the user journey is smooth, visually appealing, and empowering. Such an approach not only boosts immediate engagement but also builds a stronger, lasting brand image. Moreover, companies operating in emerging markets, such as Algeria, can leverage these insights to design mobile experiences that go beyond functionality to deliver emotional and experiential value, positioning their brands as innovative and customer-centric.

6. Conclusion

This study investigated the impact of mobile application marketing on brand image, considering user experience as a mediating factor, using the case of the Djezzy App. Based on survey data analyzed through PLS-SEM, the empirical results confirmed that mobile application marketing has both direct and indirect effects on brand image, with user experience acting as a significant partial mediator.

Quantitatively, mobile application marketing explained 44.3% of the variance in user experience and 39.7% of the variance in brand image, indicating a moderate yet meaningful explanatory power. The study found that in-app promotional strategies, personalized content, and seamless transactional features significantly enhance user experience by improving interface appeal, perceived control, and satisfaction. In turn, these elements strengthen brand image through increased trust, positive perception, and loyalty intention.

From an economic perspective, enhanced user experience can directly contribute to reducing customer churn, increasing average revenue per user (ARPU), and extending customer lifetime value (CLV). A user-friendly, personalized, and engaging app fosters stronger emotional attachment and continued service usage, which translates into long-term profitability and brand resilience.

Managerially, the findings recommend that telecom operators allocate resources strategically between marketing and UX development, giving priority to UX design improvements such as intuitive navigation, real-time personalization, and integrated payment options before intensifying promotional activities. Investments in UX optimization yield both immediate and sustained returns by amplifying the impact of marketing efforts. Moreover, marketers should ensure consistency between digital communication strategies and in-app user experiences to reinforce trust and brand coherence.

Despite its valuable insights, this study is subject to certain limitations. The data were collected from individuals participating in the Djezzy Legend promotional campaign, held in a specific geographical area (Skikda Province), which may limit the generalizability of the findings. Additionally,

the cross-sectional nature of the research restricts the ability to infer long-term causal relationships.

Future research could extend this model to different industries, geographical contexts, or types of mobile applications, and include variables such as customer engagement, perceived value, and behavioral intentions. Longitudinal designs would also allow for deeper examination of how sustained mobile marketing and UX improvements influence brand equity and customer loyalty over time.

In conclusion, the study provides both theoretical and managerial contributions by demonstrating that integrating mobile marketing with UX optimization is a powerful strategy for strengthening brand image and achieving sustainable competitive advantage in the digital economy.

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