



## Factors Affecting Customer Satisfaction of Mobile Banking in Libya

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### ABSTRACT

In recent years, the banking industry has witnessed a significant shift towards digitization, with mobile banking services becoming increasingly popular among customers. Customer satisfaction is a critical factor for the success and sustainability of any business, including the banking sector. This research paper aims to investigate the factors that influence customer satisfaction with online banking services in Libya. This study adopts a quantitative research approach, utilizing a questionnaire. Data were collected from 309 mobile banking users in Libya. The research model relies on four factors: confirmation of expectation, perceived ease of use, perceived usefulness, and customer satisfaction. The research model was examined with Structural Equation Modeling (SEM). Confirmation of Expectation, perceived ease of use, and perceived usefulness were found to have a positive and significant effect on customer satisfaction with mobile banking services. The results also show that perceived usefulness is positively and significantly influenced by perceived ease and of use and confirmation of expectation. Likewise, confirmation of expectation was found to significantly influence perceived ease of use. These findings will provide valuable insights into areas where banks can focus their efforts to improve service quality and enhance customer satisfaction levels.

**Keywords:** satisfaction, mobile banking services, perceived ease of use, perceived usefulness, confirmation of expectation

العوامل التي تؤثر على رضا العملاء عن الخدمات المصرفية عبر الهاتف المحمول في ليبيا

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### الملخص

في السنوات الأخيرة، شهدت صناعة البنوك تحولاً كبيراً نحو التقنية الرقمية، حيث أصبحت الخدمات المصرفية عبر الهاتف المحمول شائعة بشكل متزايد بين العملاء. إن رضا العملاء هو عامل حاسم لنجاح واستدامة أي عمل تجاري، بما في ذلك قطاع البنوك. يهدف هذا البحث إلى دراسة العوامل التي تؤثر على رضا العملاء عن الخدمات المصرفية عبر الإنترنت في ليبيا. استخدمت هذه الدراسة نهجاً بحثياً كمياً، باستخدام استبانة إلكترونية. تم جمع البيانات من 309 مستخدمًا لخدمات المصرفية عبر الهاتف المحمول في ليبيا. يعتمد نموذج البحث على أربعة عوامل: تأكيد التوقعات، وسهولة الاستخدام، والفائدة المدركة، ورضا



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العملاء. تم تحليل البيانات باستخدام نمذجة المعادلة الهيكلية (SEM). تبين أن تأكيد التوقعات والسهولة المدركة والفائدة المدركة لهم تأثير إيجابي وذو دلالة إحصائية على رضا العملاء عن الخدمات المصرفية عبر الهاتف المحمول. كذلك، أظهرت النتائج أن الفائدة المدركة تتأثر بشكل كبير بسهولة الاستخدام المدركة وتأكيد التوقعات. بالإضافة إلى ذلك، أظهرت النتائج أن تأكيد التوقعات له تأثير إيجابي ذو دلالة إحصائية على سهولة الاستخدام المدركة. هذه النتائج لها فائدة كبيرة جدا للمصارف الليبية لتحسين جودة الخدمات المصرفية وزيادة رضا العملاء عن الخدمات المصرفية عبر الهاتف المحمول.

**الكلمات المفتاحية:** رضا العملاء، الخدمات المصرفية عبر الهاتف المحمول، سهولة الاستخدام المدركة، الفائدة المدركة، تأكيد التوقعات

## Introduction

In recent years, the banking industry has witnessed a significant shift towards digitalization, with online banking services becoming increasingly popular among customers (Bakare, Olufayo, & Omoera, 2023). This transformation has been accelerated by advancements in technology and the widespread availability of internet access. Libya, like many other countries, has experienced a surge in online banking usage as customers seek convenience and efficiency in managing their financial transactions (Ha, Tran, Sakka, & Ahmed, 2023; Rawwash, Masad, Enaizan, Eneizan, Adaileh, Saleh, & Almestarihi, 2020).

Customer satisfaction is a critical factor for the success and sustainability of any business, including the banking sector (Lu, Deng, & Huang, 2022; Shetu, Jahan, Islam, Ara, Hossain, Moon, & Narin, 2021). Understanding the factors that influence customer satisfaction with online banking services is essential for banks to enhance their offerings and meet customer expectations effectively (Abualasnod & Othman, 2020). However, there is limited research available on this topic, specifically focused on Libya. Therefore, this research paper aims to bridge this gap by investigating the factors that influence customer satisfaction with online banking services in Libya. By identifying these factors, banks can develop strategies to improve their service quality and enhance customer experiences (Indrasari, 2022).

Additionally, this research paper aims to contribute to the existing body of knowledge on customer satisfaction with online banking services by providing insights into areas where banks can focus their efforts to improve service quality and enhance customer satisfaction levels.

Anouze, Alamro, and Awwad (2019) and Liljander and Strandvik (1995) suggest that customer satisfaction and quality are closely linked. Sardana and Singhania (2018) argue that e-banking is significantly contributing to the banking industry's growth by enhancing customer satisfaction through reliability and trustworthiness, as supported by Al-Zadjali, Al-Jabri, and Al-Balushi (2015). Customer satisfaction is a vital aspect in all industries, particularly in the service sector, as highlighted by Pooya, Khorasani, and Ghouzhdhi (2020) and Tseng and Wei (2020).

A number of research studies suggested that ease of use, confirmation of expectations, and usefulness significantly affect outcomes (Abualasnod & Othman, 2020; Khanifar, Mohaghegh



Nia, Molavi, & Emami, 2012; Li, Lu, Hou, Cui, & Darbadi, 2021; Martins, 2013; Sentosa, Ming, Soebyakto, & Nik Mat, 2012; Shetu et al., 2021).

Against this background, the current study will help researchers and practitioners gain a better understanding of the unique challenges and opportunities faced by banks in Libya.

Moreover, the findings of this study will have practical implications for banks in the country, enabling them to develop strategies that align with customer expectations and enhance their competitive advantage in the digital banking sector

(Foroughi, Sitthisirinan, Iranmanesh, Nikbin, & Ghobakhloo, 2023; Ha et al., 2023).

This paper has been divided into six parts, including this introductory part. The next part of the research deals with theoretical background and hypotheses development. The subsequent part gives a brief overview of the methodology used in this study. The third section of this paper presents the findings of the research. After that, the conclusion gives a brief summary of the findings, focusing on the theoretical and practical contributions of the study. Finally, limitations and areas for future research are identified.

### Theoretical Background and Hypotheses Development

The conceptual model for this study is drawn upon the Technology Continuation Theory (TCT). According to (TCT), there are several factors that influence an individual's satisfaction with using a technology (Liao, Palvia, & Chen, 2009). These factors include: perceived usefulness, perceived ease of use, and confirmation of expectation (Jain, Kaul, & Sanyal, 2022). Based on (TCT), the research model is constructed as presented in Figure 1.

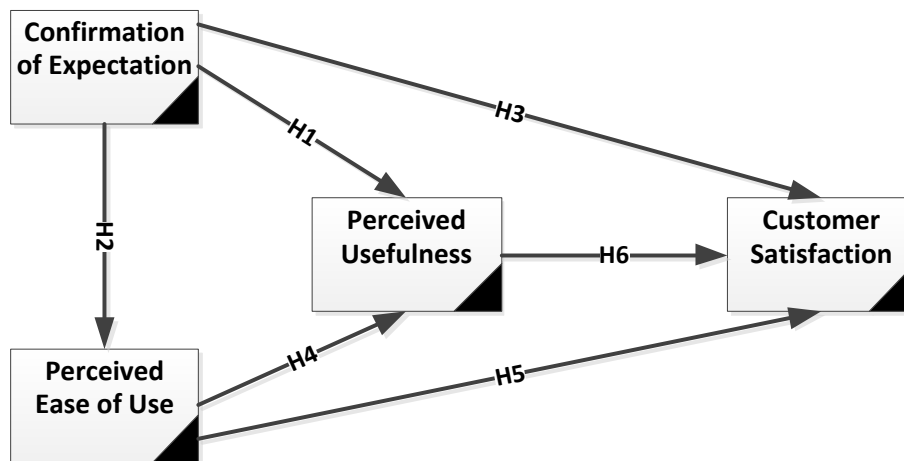


Figure 1: Research Model  
(Adopted by Author)

As suggested by Lu et al. (2022), understanding these factors can help organizations design strategies to increase the level of users' satisfaction while using the technology. In the context of the current study, many research papers have used (TCT) to understand outcomes (Ha et al., 2023; Khayer & Bao, 2020; Olivia & Marchyt, 2022).

Customer satisfaction, as defined by Oliver (1980), is the extent to which customers feel their expectations have been met by a product or service. Successful businesses, particularly banks, prioritize the happiness and satisfaction of their customers. The more connected a customer



feels to a bank, the greater its market share and profitability (Asiyanbi & Ishola, 2018). In this context, Fornell (1992) noted that customer satisfaction can vary based on past experiences and that quality is judged by the customer, with the most important quality assessment being its impact on customer loyalty. Customer satisfaction is linked to high-tech electronic banking, business performance, and customer intentions. When customers are satisfied, business performance improves and the overall success of the business is enhanced (Al-Khalaf & Choe, 2020; Shetu et al., 2021).

Confirmation of expectation refers to the extent to which a user's initial expectations about a product or service are met or confirmed after using it. It is based on the user's preconceived notions, beliefs, and assumptions about the product or service (Rahi, Khan, & Alghizzawi, 2021).

Perceived usefulness, on the other hand, refers to the degree to which a user believes that a particular product or service will enhance their performance and productivity (Kim, Ferrin, & Rao, 2008). It is based on the user's subjective evaluation of how well the product or service meets their needs and goals.

The relationship between confirmation of expectation and perceived usefulness is closely linked (Lu, Deng, & Huang, 2022; Olivi & Marchytu, 2022). When a user's initial expectations are confirmed through their experience with a product or service, it tends to increase their perception of its usefulness. In other words, if users find that a product or service delivers what they expected it to deliver; they are more likely to perceive it as useful (Ha et al., 2023).

On the contrary, if users' expectations are not met or if they experience unexpected outcomes from using a product or service, it can lead to lower perceived usefulness. If users feel that the product does not meet their needs or fails to deliver on its promises, they may perceive it as less useful.

Therefore, confirmation of expectation plays a crucial role in shaping users' perception of usefulness (Wardana & Saputro, 2022). When users' expectations align with their actual experience, it enhances their perception of usefulness. This highlights the importance for businesses and developers to manage customer expectations effectively and ensure that their products or services meet those expectations in order to maximize perceived usefulness. This was further confirmed by Khayer and Bao (2020). Therefore, the current study suggests the following hypothesis:

**H1: confirmation of expectation has a significant effect on perceived usefulness.**

Confirmation of expectation refers to the extent to which a user's preconceived expectations about a service are met or exceeded. In the context of online banking services, this would mean that users' expectations regarding the ease of use, security, reliability, availability of features, and overall performance of the platform are confirmed.

Khatoon (2020), Rawwash et al. (2020), and Shetu et al. (2021) argue that when users' expectations are confirmed, it leads to higher levels of user satisfaction with online banking services. This is because users feel that their needs and requirements have been met by the service provider. They perceive the service as reliable, trustworthy, and efficient, which enhances their overall satisfaction.

On the other hand, if users' expectations are not confirmed or if there is a significant gap between their expectations and the actual performance of the online banking platform, it can result in lower levels of user satisfaction (Rahi et al., 2021). As suggested by Bakare et al.



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(2023) and Indrasari (2022), users may feel frustrated, dissatisfied, or even distrustful towards the service provider.

Therefore, confirmation of expectation plays a crucial role in shaping user satisfaction with online banking services (Foroughi et al., 2023; Jain et al., 2022). Meeting or exceeding users' expectations through seamless functionality, intuitive design, robust security measures, prompt customer support, and personalized features can significantly enhance user satisfaction levels. Conversely, failing to meet these expectations can lead to dissatisfaction and potentially drive users away from using online banking services.

According to (TCT), expectation is a key antecedent of users' judgments of a information technology. Taken together, these results suggest that confirmation has significant effects on perceived ease of use and customer satisfaction, suggesting the following relationships:

**H2: confirmation of expectation has a significant effect on perceived ease of use.**

**H3: confirmation of expectation has a significant effect on customer satisfaction.**

Perceived ease of use refers to the extent to which users believe that using online banking services is effortless and straightforward (Kim et al., 2008). It involves factors, such as the simplicity of navigation, clarity of instructions, and intuitiveness of the interface. When users perceived online banking services as easy to use, they are more likely to engage with them frequently and explore various features.

According to (TCT), perceived ease of use positively affects perceived usefulness (Liao et al. 2009). As suggested by Martins (2013) and Mittal and Agrawal, (2022), the relationship between perceived ease of use and perceived usefulness is often interdependent. Raza, Umer, Qureshi, and Dahri\_(2020) also argue that, If users find online banking services ease to use, they are more likely to perceive them as useful because they can navigate through different features effortlessly. This result was confirmed by Li et al. (2021). Similarly, Lu et al. (2022) and Olivia and Marchyta (2022) have found that if users find online banking services useful in achieving their financial goals, they are more likely to perceive them as easy to use because they see tangible benefits from using them. This suggests:

**H4: Perceived ease of use has a significant effect on perceived usefulness.**

Research has shown a positive relationship between perceived ease of use and satisfaction in the context of online banking services. When users perceive both factors positively, it leads to higher levels of user satisfaction and increase adoption rates (Abualasnod & Othman, 2020; Ha et al., 2023). Conversely, if either factor is perceived negatively, it can result in frustration, dissatisfaction, and lower adoption rates (Li et al.,2021). This proposes:

**H5: Perceived ease of use has a significant effect on customer satisfaction.**

Finally, the relationship between perceived usefulness and customer satisfaction is crucial in increasing user intention to continue using online banking services (Lu et al., 2022; Olivia & Marchyta, 2022). Based on (TCT), customer satisfaction with a technology is positively affected by perceived usefulness (Liao et al., 2009; Martins, 2013). Therefore, the current study proposes the following relationship between perceived usefulness and customer satisfaction with mobile services provided by Libyan banks:

**H6: Perceived usefulness has a significant effect on consumer satisfaction.**



## Methodology

To test the previous hypotheses, this study utilized a survey questionnaire that included groups of questions based on the research model. The questionnaire consisted of four constructs: Confirmation of Expectations (COE), Perceived Ease of Use (PEOU), Perverted usefulness (PU), and Satisfaction (SAT). Additionally, demographic questions such as gender, age, and job, as well as online behavior questions were included. The measurement scales for each construct were adapted from previous studies to fit the context of this study.

Confirmation of Expectations was measured using four items from Liao et al. (2009). Perceived Ease of Use and Perverted usefulness were measured using five and four items, respectively from Tsang, Ho, and Liang (2004). Satisfaction was assessed using five scales from Liao et al. (2009). All measurement scales were rated on a 5-point Likert scale ranging from strongly disagree to strongly agree. Table 1 shows items and supporting literature.

The questionnaire was initially created in English and then translated into Arabic using the backward translation method and guidelines from Brislin (1976). Two experts knowledgeable about Libyan culture were involved in the translation process from English to Arabic. The survey was then piloted with 50 potential participants. Reliability of the constructs was assessed using Cronbach's alpha, with all constructs meeting the criteria for high reliability. Based on feedback from pre-testing and pilot study, the final version of the questionnaire was accepted.

**Table No. 1**

Summary of measurement scales with the supporting literature

Construct	Items	Supporting literature
Perceived usefulness (PU)	<p>Using mobile banking services allow me to access banking services more quickly (PU1)</p> <p>Using mobile banking services is the easiest way to access banking services (PU2)</p> <p>Using mobile banking services enhance my banking activities and services (PU3)</p> <p>I find the use of mobile banking services useful for my banking needs (PU4)</p>	Tsang et al. (2004)
Perceived ease of use (PEOU)	<p>Overall, I find mobile banking services to be easy to use (PEOU1)</p> <p>Using mobile banking services is easy and affordable (PEOU2)</p> <p>My interactions with mobile banking services are clear and understandable (PEOU3)</p>	Tsang et al. (2004)



Construct	Items	Supporting literature
	<p>Interaction with the mobile banking application is flexible on any device (PEOU4)</p> <p>It is easy to become skillful in using mobile banking services (PEOU5)</p>	
Confirmation of Expectations (COE)	<p>My experience with using mobile banking services was better than I expected (COE1)</p> <p>The level of mobile banking services provided was better than I expected (COE2)</p> <p>The expectations I had about mobile banking services were correct (COE3)</p> <p>Overall, most of expectations about the use of mobile banking services have been confirmed (COE4)</p>	Liao et al. (2009)
Satisfaction (SAT)	<p>I am satisfied with the way my mobile banking transactions are carried out (SAT1)</p> <p>I am satisfied with the banking services I received via mobile phone (SAT2)</p> <p>I highly recommend others to use mobile banking services (SAT3)</p> <p>I think my use of mobile banking services was the right decision (SAT4)</p> <p>Overall, I am satisfied with mobile banking services (SAT5)</p>	Liao et al. (2009)

The population of this study was the mobile banking users in Libya. It is impossible to survey all units of the study population. Therefore, the researcher adopts a convenience sampling method. By using this method, the study analyzed 309 usable questionnaires, which were considered the true representative of the entire population (Saunders, Lewis, & Thornhill, 2016).

Out of the 309 participants, 261 (84.5%) were male and 48 (15.5%) were female. 60% of participants fell within the age range of 41 or above, followed by those aged 31-41 and 20 - 30 (20.4% and 19.4%, respectively). Among the participants, 94.2% were government employees and 5.8% were private sector employees. 41.7% of the participants always used online banking



services, 28.4% mostly used online banking services, and nearly 30% sometimes used online banking platforms. Table 2 presents Research sample demographic profile.

**Table No. 2**

Research sample demographic profile

Measure	Items	Frequency	Percentage
Gender	Male	261	84.5 %
	Female	48	15.5 %
Age	20 – 30	60	19.4 %
	31 – 40	63	20.4 %
	41 – 50	90	29.1 %
	51 or above	96	31.1 %
Job	Government employee	291	94.2 %
	Private sector employee	18	5.8 %
	Student	0	0 %
	Other	0	0 %
Mobile banking use frequency	Never	0	0 %
	Rarely	2	0.65 %
	Sometimes	90	29.12 %
	Mostly	88	28.48 %
	Always	129	41.74 %

## Data analysis and results

### Reliability and validity analysis

The current study used Cronbach's alpha to assess the reliability of the measurement scales. The values of Cronbach's alpha, as shown in Table 3, were all above the acceptable level of 0.70, indicating good reliability (Hair, Black, Babin, & Anderson, (2014). Additionally, an exploratory factor analysis (EFA) was conducted using Principal Component Analysis with Varimax rotation to establish the reliability of each item. Only four components were derived from this analysis, and each item had a loading on its related factor, providing clear evidence for item reliability (Hair et al., 2014). All scales had factor loadings ranging from 0.636 to 0.861.

**Table No. 3**

Results of reliability and factor analysis

	Component				Cronback's Alpha
	1	2	3	4	
COE1	.636				.75
COE2	.662				
COE3	.636				
COE4	.662				
PEOU1		.757			.76
PEOU2		.720			
PEOU3		.703			





	Component				Cronback's Alpha
PEOU4		.861			.70
PEOU5		.745			
PU1			.830		
PU2			.730		
PU3			.733		
PU4			.734		.90
SAT1				.822	
SAT2				.752	
SAT3				.822	
SAT4				.752	
SAT5				.822	

Note: COE = Confirmation of expectations, PEOU = Perceived ease of use, PU = Perceived usefulness, and SAT = Satisfaction

Confirmatory factor analysis (CFA) was then performed to evaluate the properties of the measurement scales. The results indicated satisfactory model fit indices: significant  $\chi^2$  statistics ( $p < 0.001$ ), GFI = 0.943, AGFI = 0.921, NFI = 0.923, IFI = 0.875, CFI = 0.954, RMR = 0.042, and RMSEA = 0.064. As shown in Table 4, the standardized factor loadings of each item exceeded the required level of 0.6 (Hair et al., 2014). Furthermore, composite reliability (CR) for each construct surpassed the required level of 0.70, supporting internal consistency and questionnaire reliability (Nunnally & Bernstein, 1994). According to Fornell and Larcker's recommendation (1981), the average variance extracted (AVE) should be equal to or above 0.5; all AVE values in this study met this criterion as presented in Table 4.

**Table No. 4:**

Results of validity assessment

Construct	Measurements items	Factor Loading	CR	AVE
Confirmation of Expectations (COE)	COE1	.87	.78	.564
	COE2	.71		
	COE3	.83		
	COE4	.77		
Perceived ease of use (PEOU)	PEOU1	.86	.80	.543
	PEOU2	.88		
	PEOU3	.82		
	PEOU4	.79		
	PEOU5	.77		
Perceived usefulness (PU)	PU1	.69	.74	.544
	PU2	.66		
	PU3	.70		
	PU4	.67		



Construct	Measurements items	Factor Loading	CR	AVE
Satisfaction (SAT)	SAT1	.89	.90	<b>.567</b>
	SAT2	.88		
	SAT3	.79		
	SAT4	.88		
	SAT5	.78		

According to Fornell and Larcker (1981), the square roots of the Average Variance Extracted (AVE) values, which are highlighted in bold in Table 5, were found to be higher than the correlations between a variable and any other variables in the model. This indicates that there are significant differences between the constructs being studied, thus establishing discriminant validity.

**Table No. 5**

A factor correlation matrix with the square root of the AVE

Constructs	COE	PEOU	PU	SAT
Confirmation of Expectations (COE)	.721			
Perceived ease of use (PEOU)	.700	.672		
Perceived usefulness (PU)	.654	.611	.743	
Satisfaction (SAT)	.622	.555	.711	<b>.766</b>

### Hypotheses testing

To test the hypothesized paths in the research model, Structural Equation Modeling (SEM) based on Analysis of Moment Structures (AMOS) was used. SEM is a well-known method that allows for the simultaneous testing of multiple relationships between dependent and independent variables (Anderson & Gerbing, 1988). Unlike other methods, SEM has a less restrictive assumption of measurement error and takes into account that each explanatory and dependent variable may have associated measurement error (Bollen, 1989).

To evaluate the proposed relationships, we followed the approach suggested by Hair et al. (2014). We examined the significance of the relationships through the standardized coefficient estimate ( $\beta$ -value), and p-value. A relationship between two factors is considered significant if the p-value is less than 0.05 (Hair et al., 2014).

In H1, confirmation of expectations (COE) was expected to have a positive and significant impact on perceived usefulness (PU). The statistical analysis supported H1 (COE  $\rightarrow$  PU:  $\beta$ -value = .41 p-value < 0.001). The results also gave support to H2 in which confirmation of expectations (COE) has a positive effect on perceived ease of use (COE  $\rightarrow$  PEOU:  $\beta$ -value = .41, p-value < 0.001).

Similarly, confirmation of expectations (COE) was shown to have a positive significant influence on customer satisfaction (COE  $\rightarrow$  SAT:  $\beta$ -value = .36, p-value < 0.001), supporting H3. In H4 and H5, perceived usefulness (PU) and customer satisfaction (SAT) were assumed to be positively and significantly influenced by perceived ease of use (PEOU). As predicted, the statistical analysis showed results to support these relationships (PEOU  $\rightarrow$  PU:  $\beta$ -value = .44, p-value > 0.05, and PEOU  $\rightarrow$  SAT:  $\beta$ -value = .45, p-value > 0.05). Therefore, H4 and H5 were supported by our data.



Likewise, a positive relationship was found between perceived usefulness (PU) and customer satisfaction (PU → SAT:  $\beta$ -value = .37, p-value < 0.001), confirming H6. A summary of the hypotheses evaluation is presented in Table 6.

**Table No. 6**

Table 6: Results of hypotheses testing

Hypothesis	Causal path	Estimate (B - value)	Result
H1	COE → PU	.34***	Supported
H2	COE → PEOU	.41 ***	Supported
H3	COE → SAT	.36***	Supported
H4	PEOU → PU	.44 ***	Supported
H5	PEOU → SAT	.45 ***	Supported
H6	PU → SAT	.37 ***	Supported

Note: COE = Confirmation of expectations, PEOU = Perceived ease of use, PU = Perceived usefulness, and SAT = Satisfaction

Note: \*\*\* p < 0.001

### Conclusion, Discussion, and Implications

In conclusion, the research paper aimed to identify and analyze the factors that contribute to customer satisfaction in the context of online services in Libya. The study utilized a quantitative research approach, collecting data from a sample of online banking customers through a structured questionnaire.

The findings of the study revealed several key factors that significantly influence customer satisfaction with online banking services in Libya. These factors include confirmation of expectation, perceived usefulness, and perceived ease of use. These findings support previous research into this area which links the design of websites as well as platforms and outcomes (Shaouf & Lu, 2022; Shaouf, Lu, & Li, 2016). These findings further support the idea that a well-designed online banking platform that is visually appealing and easy to navigate positively impacts customers' overall experience.

It is important for online banking service providers to continuously assess and understand their customer's expectations through feedback mechanisms such as surveys or user testing. By actively managing and meeting these expectations consistently over time, they can foster higher levels of user satisfaction and loyalty towards their services.

One of the most significant findings to emerge from this study is that confirmation of expectation and perceived ease of use have significant effects on perceived usefulness. These findings are close to those of Jain et al. (2022) and Foroughi et al. (2023) who used (TCT) with positive and significant results. Also, confirmation of Expectation was found to play a vital role in influencing perceived ease of use. This result is more consistent with Khayer and Bao's (2020) findings.



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Based on these findings, it is recommended that Libyan banks focus on improving Internet banking apps design and functionality. Banks should also prioritize providing user-friendly interfaces for customers. Enhancing service quality through efficient transaction processing is crucial for maintaining high levels of customer satisfaction.

In their study, Wandu, Zainal, Arafah, Subagja & Saad (2020) examined how the quality of services in Islamic banks affects customer awareness and satisfaction. The results indicated a strong and positive relationship between service quality and customer awareness, ultimately leading to increased customer satisfaction. However, the main weakness of the study is the failure to address how confirmation of expectation influences customer satisfaction with mobile banking. Another weakness is that we are given no explanation of how confirmation of expectation affects perceived ease of use and perceived usefulness. Therefore, the current study extends our knowledge of how different factors can enhance customer satisfaction in the context of Internet banking.

Based on a Lebanese sample, Hammoud, and Bizri El Baba (2018) conducted a study on the impact of e-service quality dimensions on customer satisfaction in the banking sector using structural equation modeling. Their findings revealed significant results. Specifically, they found that efficiency, reliability, security and privacy, as well as responsiveness and communication all had a significant impact on customer satisfaction.

Lu et al. (2022) indicated that the higher customer expectations are, the more customers perceive the online banking platform to be easy and useful. Similarly, Olivia and Marchyta (2022) found that an increase in confirmation of expectation improves customer satisfaction. These results are consistent with those of other studies that suggested that customer satisfaction and loyalty are significantly influenced by different factors, such as cloud services, security, e-learning, and service quality (Li et al., 2021; Mittal & Agrawal, 2022; Raza et al., 2020;).

Rawwash et al. (2020) investigated how various variables, such as trust in e-banking, affect customer outcomes in the context of Jordan. Additionally, the recent study of Bakare et al. (2023) has discussed several factors that contribute to customer satisfaction in Nigeria. In another major study, Rahi et al. (2021) analyzed data collected from 360 Internet banking users in Pakistan, with significant results. Recently, Shetu et al. (2021) has studied customer satisfaction with banking services in Bangladesh. Therefore, the present study contributes additional evidence and provides a new understanding of e-banking services provided by Libyan banks.

This research paper makes several theoretical and practical contributions to the field of online banking and customer satisfaction.

- The paper identifies and explores various factors that influence customer satisfaction with online banking services. This contributes to the existing literature by providing a



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comprehensive understanding of the specific factors that impact customer satisfaction in the Libyan context.

- The paper develops a conceptual framework that integrates different variables such as expectation, perceived ease of use, and perceived usefulness into a model for understanding customer satisfaction with online banking services. This framework can serve as a basis for future research and theoretical development in this area.
- The paper validates existing theories such as the Technology Acceptance Model (TAM) and Technology Continuance Theory (TCT) in the context of online banking services. This validation contributes to the generalizability and applicability of these theories across different cultural settings.

The findings of this research paper also offer valuable insights for managers and decision-makers in the Libyan online banking industry. By understanding the factors that affect customer satisfaction, managers can make informed decisions regarding service improvements and making strategies.

- The study identifies specific areas where online banking services in Libya can be improved to enhance customer satisfaction. These recommendations can help banks develop targeted strategies such as improving platform usability, enhancing security measures, and offering convenient access channels.
- By focusing on factors that directly impact customer satisfaction, this research promotes a customer-centric approach within the Libyan online banking industry. Banks can use these findings to prioritize their efforts toward meeting customer needs and expectations effectively.

#### Limitations and recommendations for future research

Overall, this research paper contributes to both theoretical knowledge and practical implications in the field of online banking services. It provides a deeper understanding of customer satisfaction factors and offers recommendations for improving online banking services.

The study focuses solely on Libya, which limits its generalizability to other countries or regions. Therefore, conducting similar studies in different cultural contexts would allow for a comparison of factors influencing customer satisfaction across various settings.

Investigating potential moderating factors that influence the relationship between confirmation of expectation, perceived usefulness, perceived ease of use, and customer satisfaction would enhance understanding. For example, exploring how demographic variables (e.g., age, gender) impact these relationships could provide valuable insights.



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Examining mediating variables that explain the relationship between confirmation of expectation, perceived usefulness, perceived ease of use, and customer satisfaction would deepen understanding. For instance, investigating whether trust in online banking platforms mediates these relationships could shed light on underlying mechanisms.

Combining quantitative and qualitative methods, such as surveys and interviews, would provide a more holistic understanding of customer satisfaction with online banking services. This approach could capture both numerical and rich narratives, allowing for a deeper exploration of customers' experiences and perceptions.

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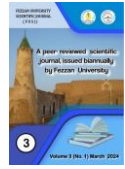


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