

Customer Experience in Mobile Banking: a Systematic Literature Review and Agenda for Future Research

L'expérience Client dans la Mobile Banque: Revue de la Littérature Systématique et Agenda de Recherche

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Date submitted : 15/10/2023

Date of acceptance : 04/11/2023

To cite this article :

LAZAARE G. & GHANNAM ZAIM O. (2023) «Customer Experience in Mobile Banking: a Systematic Literature Review and Agenda for Future Research», Revue Internationale des Sciences de Gestion « Volume 6 : Numéro 4 » pp : 1149 - 1174

Abstract

The purpose of this study is to provide a systematic review of the literature on customer experience in mobile banking, offering an overview of the current state of research, highlighting the underpinning theories, research trends, methods, determinants, and outcomes, identifying gaps in the literature, and setting an agenda for future research.

This research consists of the study and analysis of 26 articles published between 2014 and 2021 in 20 journals identified from the online academic databases such as Ebsco and Emerald.

The results indicate that research on customer experience has flourished in recent years and has become a key concept in customer management. It is a multidimensional concept with different determinants and outcomes, depending on the context and underlying theoretical foundation (UTAUT, ECT, flow theory, etc.).

This study is the first to systematically synthesize the literature on customer experience in the context of mobile banking, offering a theoretical state-of-the-art and an extensive agenda for future research.

Keywords : Systematic literature review; Customer experience; mobile banking; experiential marketing; mobile app.

Résumé

L'objectif de cette étude est de fournir une revue systématique de la littérature sur l'expérience client dans la banque mobile, en donnant un aperçu de l'état actuel de la recherche. Elle consiste en l'étude et l'analyse de 26 articles publiés entre 2014 et 2021, identifiés grâce à une revue approfondie de la littérature sur l'expérience client dans la banque mobile. Les articles sont publiés dans 20 revues identifiées à partir des bases de données académiques en ligne.

Les résultats indiquent que la recherche sur l'expérience client a prospéré ces dernières années, devenant un concept clé dans la gestion de la clientèle. L'expérience client est un concept multidimensionnel avec différents déterminants et résultats, dépendant du contexte et des fondements théoriques sous-jacents (UTAUT, ECT, théorie du flux, etc.).

Cette étude est la première à synthétiser de manière systématique la littérature sur l'expérience client dans le contexte de la banque mobile, offrant un état de l'art théorique et un agenda pour les recherches futures.

Mots clés: Revue de la littérature systématique ; expérience client ; banque mobile ; marketing expérientiel ; application mobile.

Introduction

“Today, “customer experience” has become one of the major buzzwords in marketing.” (Lemon and Verhoef, 2016). Companies, especially in the service industry, are striving to deliver meaningful and rewarding experiences to their customers (Rajaobelina et al., 2018). Owing to the rapid change and extensive use of technology, the banking industry is considered a pioneer in the digitalization of services (Komulainen and Saraniemi, 2019).

Marketing science, specifically customer management, has been slow to adopt the developments of customer experience in marketing literature (Lemon & Verhoef, 2016). In the banking industry, most research has focused on the adoption of mobile banking rather than customer experience. To the best of our knowledge, this is the first literature review to examine customer experience in the banking industry in general, and specifically in mobile banking.

This study aims to answer the question: What are the determinants and consequences of customer experience in mobile banking? This systematic literature review summarizes the existing literature on customer experience in mobile banking. It identifies the antecedents and consequences of customer experience in mobile banking, provides a theoretical background, and identifies the existing gaps and areas to be investigated.

The upcoming section gives a background to the study. The following section details the methodology adopted in this paper, which consisted of the study and analysis of 26 articles published between 2014 and 2021 in 20 journals identified from the online academic databases such as Ebsco and Emerald. Then an analysis of the important results is presented and the main findings are discussed. The final section highlights practical and theoretical contributions as well as study limitations and directions for future research.

1. Background of the study

The Marketing Science Institute (2014, 2016) considered customer experience (CX) as a significant research focus in the upcoming years (Lemon and Verhoef, 2016a). At the same time, international brands have started incorporating CX as a goal in their mission and value statements (Keyser et al., 2015). Companies, especially those in the service industry, are striving to deliver meaningful and rewarding experiences to their customers (Rajaobelina et al., 2018). Consulting firms, including notable players such as Accenture, Gartner, IBM, and McKinsey, have placed significant emphasis on customer experience to the extent that they have developed dedicated practices centered around it (Keyser et al., 2015). Stakeholders

promoting and advancing the field of customer experience also extend to professional societies, such as the Customer Experience Professionals Association (CXPA).

However, this evolution does not occur overnight. As a matter of fact, research in the 90s and 2000s only focused on the impact of atmospherics (physical facility, equipment, personnel and communication material), also known servicescapes', on the customers. The shift point in the economy occurred when the switch from being conventionalist product-centered to experientialist consumer-centered (Rabino et al., 2009).

In their aim to reduce costs, improve loyalty, and shift from traditional to self-assisted channels (through internet, mobile, and smartphone), banks in advanced countries have reduced the number of branches (Nam et al., 2016). As new mobile technology that has already become established is rapidly changing the form of banking and financial services, and future methods of use (Komulainen and Saraniemi, 2019).

Providing superior value to customers and engaging them in joint value creation becomes critical. In addition, customer needs are evolving as more transactions occur on mobile devices, demanding real-time, personalized, and seamless payment experiences. Therefore, understanding how customers experience value in new banking services has become increasingly important (Komulainen & Saraniemi, 2019). Customers no longer need to abide by the bank's opening hours or spend time waiting in phone queues in order to get into contact with their bank advisors (Zook and Smith, 2016 as reported by Larsson & Viitaoja, 2017).

Today, banking organizations focus more on interactions with customers. Berry and Carbone (2007) explain that banks are trying to provide superior services and endeavoring to satisfy their customers, but to sustain their competitiveness, the banking organizations have to vigorously work on the 'touch points' of the customers (Sharma et al., 2016).

Customer expectations have been increasing, owing to the development of technology, ease of access to information, and growing competition among sector actors. "E-commerce development has prompted the need to provide seamless marketing experiences across various digital channels to achieve business success" (Mbama et al., 2018).

2. Methodology

Xiao and Watson (2019) identified two forms of literature review: the first is a background review, which justifies research design decisions, provides a theoretical context, or identifies literature gaps to be filled; the second is a stand-alone piece whose objective is to aggregate,

interpret, and explain an existing body of literature (Xiao & Watson, 2019). This study falls under the first category.

This systematic literature review followed the process explained by Xiao and Watson (2019), and consisted of three phases: planning, conducting, and reporting. The planning phase included formulating the problem and developing a review protocol. The second phase consisted of five steps : (1) literature search by reviewing titles, (2) screening for inclusion by reviewing abstracts, (3) quality assessment by reviewing the full text, (4) data extraction, and (5) data analysis and synthesis. (Xiao & Watson, 2019).

Although most pertinent to the medical field, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method has been followed by researchers conducting systematic literature reviews in different fields. Because it provides specific guidance on the conduct of systematic reviews and meta-analyses (Bown & Sutton, 2010), the PRISMA checklist was adopted to ensure the completeness of the elements to be included in this study.

2.1. Review Protocol

The first section of this review is the protocol, which describes the elements of the review, starting with the research objectives, questions, and inclusion and exclusion criteria. It also includes screening procedures, data extraction and abstraction strategies, syntheses, and reports (Xiao & Watson, 2019).

2.1.1. Research Questions

One of the main objectives of this study is to compile scholarly work on customer experience in mobile banking. Accordingly, this study answers the following research questions:

- *RQ1*: What are the existing definitions of customer experience and mobile banking in literature?
- *RQ2*: What geographic and historical research trends exist regarding customer experience in mobile banking?
- *RQ3*: What are the underlying theories under which the customer experience has been studied in the context of mobile banking?
- *RQ4*: What constructs have been explored when studying customer experience in mobile banking?
- *RQ5*: What gaps remain in the literature that could constitute the starting point for future research?

2.1.2. Data sources and Search Strategy

Since the results from any systematic review are only as good as the source data upon which they are based (Bown & Sutton, 2010), research using web search engines was chosen. The sources selected for the search were Ebsco, Emerald, Elsevier Science Direct, Scopus, Springer, Web of Science and JSTOR. These databases were selected because they are used by researchers across various disciplines and include various fields (marketing, management, and information systems).

The use of different combinations of search terms and synonyms also improves the effectiveness of an electronic literature search. Therefore, the search string was as follows:

("customer experience" OR "user experience" OR "digital experience") AND ("mobile banking" OR "mbanking")

Because the search engines were different, the search query was adapted, and, whenever possible, filters for language (English) and publication dates (≥ 2010) were added. Some databases allowed the specification of features that gave more accurate results, such as searching directly in the title and abstract. When this was not the case, exhaustivity rather than preciseness was privileged. (Xiao & Watson, 2019). All search queries were executed in January 2022.

2.1.3. Inclusion and Exclusion Criteria

To include a paper in the analysis (inclusion criteria), the criteria adopted were related to publication date, language, and source type and considered all geographic locations. All the selected studies were related to the research topic.

In fact, only papers published from 2010 to 2021 were considered; since mobile banking is a relatively new concept, the authors wanted to build their review on the recent literature. Only English studies were considered because of the difficulty associated with translating academic research. In addition, only articles that came from an academic journal and had been peer-reviewed were included; hence, all gray literature (namely reports and theses) was excluded. These criteria led to **295** articles.

Articles were selected following a three-step process. First, duplicates (**266** articles) and articles outside the scope of this study were removed by identifying the preliminary relevance determined from the title. From the title, if the content seemed to discuss the topic of the literature review, its full reference, including the author, year, title, and abstract, was obtained for further evaluation (Xiao and Watson 2019). At this step, articles about the adoption of

mobile banking and customer experience in other fields, such as hospitality and retail, were excluded (**123** articles).

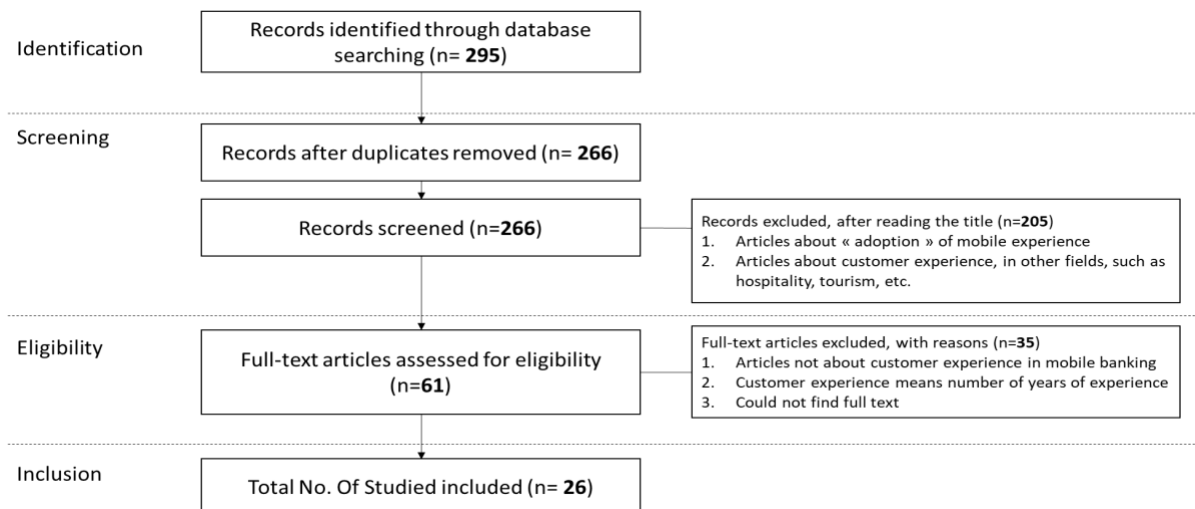
Second, the articles were screened by searching for keywords (mobile, banking, and experience), resulting in **61** articles. Subsequently, all articles were examined individually, abstracts were read, and, when necessary, the introduction and conclusion were carefully analyzed. The only papers deemed relevant were those that dealt with customer experience in mobile banking (33 articles).

The third step is quality assessment, which consists of evaluating the level of quality (high, medium, low) and only includes high-quality research. It “acts as a fine sieve to refine the full-text articles and is the final stage in preparing the pool of studies for data extraction and synthesis” (Xiao & Watson, 2019).

The final pool of articles consisted of 26 articles written by **73** authors and published in 23 journals and 3 proceedings of conferences.

This process is outlined in Figure 1.

Figure 1. Flow chart depicting the literature search and evaluation for inclusion.



(Source: Authors)

3. Results

3.1. Data abstraction and Extraction

After identifying the primary articles to be studied, each paper was read and the extracted data was recorded in a predefined form of data abstraction, which involved the selection of the data items to be extracted from each contributing article

Because of the interest in mobile banking, which also falls within the scope of software engineering, the strategy suggested by Biolchini et al. (2005) was followed, and the data

extracted from the studies were classified into four categories (Biolchini et al., 2005), as defined in Table 1.

Table 1: Details of categories used for data abstraction.

Study identification	Title Authors Database Source (name of the journal or conference proceedings) Source type: journal/ conference Keywords Year of publication Country of study
Study methodology	Methodology: quantitative /qualitative Methods (survey, case study, etc.) Analysis Theory
Study results	Purpose of the study Identified gap Results
Study problems	Limitations

(Source: Authors)

Both quantitative and qualitative studies were included in this review. However, information pertinent to the quantitative studies was extracted using a separate form in which data relative to the following were extracted: hypotheses, determinant variables, determined variables, and moderating variables. This extraction method allowed structuring the reading, focusing on the same set of criteria for all the research, and ensuring rigor in the analysis.

3.2. Results Summarization

Table 2 presents the total number of articles included in each library to classify the digital libraries from which the sources were retained. This is particularly interesting for future research as it showcases libraries that provide more accurate search results. Eight articles were published in Scopus, and 4 in each of Ebsco, Springer, and Web of Science.

Table 2: Search execution and final inclusion results.

Digital Library	Number of Papers	Inclusion
EBSCO	20	4
EMERALD	31	3
JSTOR	19	0
SCIENCE DIRECT	19	2
SCOPUS	48	8
SPRINGER	127	4
WEB OF SCIENCE	31	4

(Source: Authors)

In addition, before diving into the content, the sources of the articles constituting the body of the study were examined. Of the 20 sources from which the papers were retrieved, three were conference proceedings and the rest were peer-reviewed. The fact that the topic being studied is about mobile banking and customer experience explains that the third journal specializes in bank/financial services marketing (namely, the International Journal of Bank Marketing, which is the leading journal in this theme, followed by the Journal of Financial Services Marketing). Table 3 shows the digital databases in which the search was conducted, and the number of papers retrieved and included in this study.

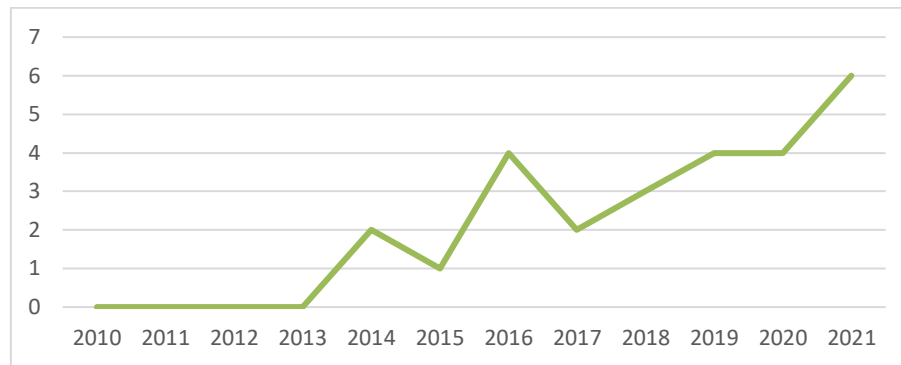
Table 3: Distribution of journals referred to in this study.

Name of the Journal	Articles count
International Journal of Bank Marketing	4
Journal of Financial Services Marketing	3
Journal of Retailing and Consumer Services	2
2021 International Conference on Electrical Engineering and Informatics (ICEEI)	1
2021 International Conference on Information Technology (ICIT)	1
Decision	1
Information Systems Frontiers	1
International Journal of Customer Relationship Marketing and Management	1
International journal of Information Management	1
International Journal of Services Technology and Management	1
International Journal of Social Economics	1
Internet Research	1
Journal of Global Information Management	1
Journal of Optimization in Industrial Engineering	1
Kafkas University. Faculty of Economics and Administrative Sciences. Journal	1
KSII Transactions on Internet and Information Systems	1
Organizacij	1
Proceedings of the 50th Hawaii International Conference on System Sciences	1
<u>South African Journal of Information Management</u>	1

(Source: Authors)

Figure 2 shows the distribution of the articles over the study period from 2010 to 2021. No articles were included from to 2010-2013 which demonstrates that the topic only started gaining popularity recently as the number of articles doubled from 2018 to 2021, the year with the highest number of articles in this study. Thus, researchers have concluded that this topic is witnessing increasing interest.

Figure 2: Number of articles published between the period 2010-2021.

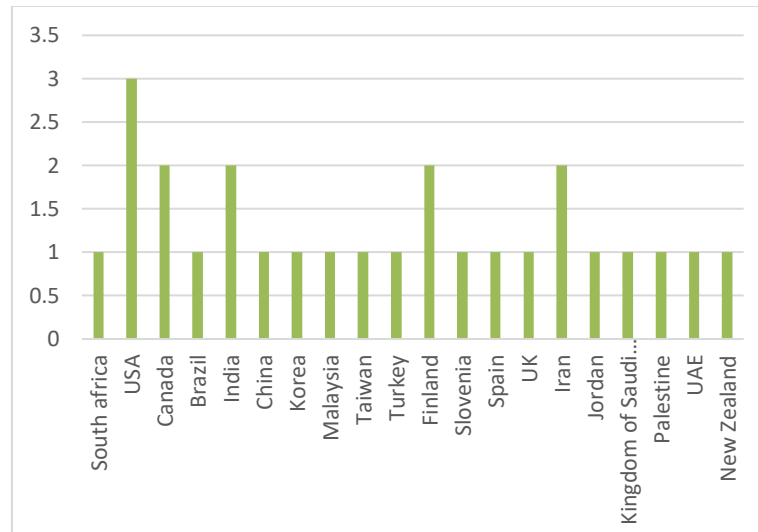


(Source: Authors)

Figure 3 shows the distribution of the research papers by country. The United States contributed the highest number of articles (3). Nevertheless, the 26 articles reviewed in this study were from 20 countries in different parts of the world.

We can conclude from Figures 2 and 3 that the topic of customer experience in the field of mobile banking is witnessing rising interest among the academic community in different parts of the world.

Figure 2: Distribution of papers by country of study.



(Source : Authors)

A total of 114 keywords were referenced from the selected papers. Table 4 summarizes the keywords used more than once. An analysis of the table reveals that the keywords fall into the following categories.

- **Mobile banking** :these are terms such as mobile banking apps, m-banking,
 - **Mobile related keywords**: mobile, mobile phone, mobile services,

- **Banking related keywords:** banking, banking industry, banking service channel choice, banking technologies, online banking, internet banking, digital banking, UI/UX
- **Digital transformation:** keywords include digital transformation, digitalization, bank digitization,
- **Customer experience keywords:** customer experience management, customer experiences, user experience,
 - **Customer related keywords:** customer centricity, consumer awareness, customer expectations, customer commitment,
 - **Keywords about dimensions of customer experience:** utilitarian emotions, hedonic emotions, value dimensions, cognitive dimension,
 - **Keywords on adjacent concepts:** (customer) engagement, (customer) loyalty, (customer) trust, service quality, (customer) satisfaction
- Keywords on the study:
 - **Keywords on theories:** UTAUT (model), UTAUT2, flow, expectation confirmation theory (ECT), generational theory, IS success model,
 - **Keywords on age groups** keywords: seniors, youth marketing, baby boomers' generation, elderly consumers,
 - **Keywords on countries** studied: Brazil, Saudi Arabia

- **Table 4: Occurrences of keywords cited more than once.**

Keyword	Number of occurrences
Mobile banking	10
Customer experience	7
Mobile banking apps: informational services	5
Customer experience management	4
Customer engagement	3
Online banking	3
User experience	3
Customer loyalty	2
Customer trust	2
Digital transformation	2
Digitalization	2
Loyalty	2
M-banking	2
Service quality	2
Usage intent	2
UTAUT2	2

(Source: Authors)

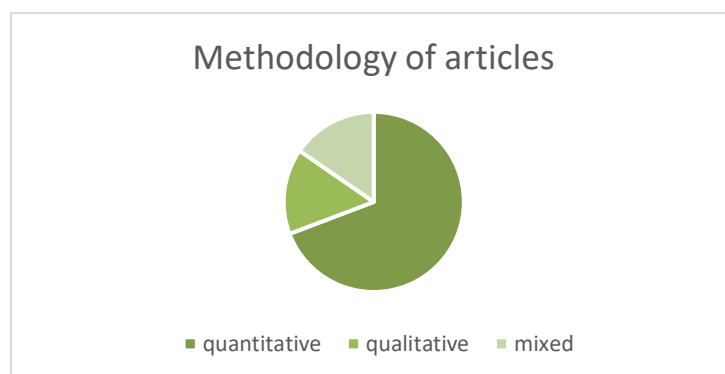
4. Analysis

4.1. Methodological choices

Most studies (70%) adopted a quantitative approach, primarily through surveys. Figure 4 illustrates the methodology used in this study.

To avoid methodological heterogeneity, which results from combining qualitative and quantitative literature because they present different ontologies and epistemologies, as explained by Bown and Sutton (2010) and Xiao and Watson (2019), segregated design was used in this literature review. This involves synthesizing qualitative and quantitative studies separately according to their respective synthesis traditions and textually combining both results (Sandelowski et al., 2006) (Xiao & Watson, 2019).

Figure 3: Methodologies adopted by the examined papers.



(Source: Authors)

4.1.1. Qualitative Studies Analysis

Qualitative studies have aimed to study topics related to customer experience in depth. While some researchers chose to focus on defining new dimensions to m-banking service quality that impact satisfaction/dissatisfaction (Jun & Palacios, 2016), other researchers focused on specific aspects such as the generational impact (Shams et al., 2020), or how to make mobile banking more profitable for banks (Komulainen & Saraniemi, 2019).

Of the four qualitative studies included in this review, the three most pertinent and directly related to customer experience employed a qualitative methodology through interviews (semi-directive or in-depth). The research of Jun and Palacios (2016) is adjacent, but focuses on service quality rather than customer experience.

Shaikh et al., (2020) used semi-structured interviews in order to explore topics related to mobile banking experience and sustained usage, and revealed three major themes. First, consumer

awareness, second perceived usefulness, and third perceived ease of use, all consumer experience in Finland (Shaikh et al., 2020).

In Iran, Shams et al. (2020) conducted 27 in-depth interviews to identify specific features regarding the experiences and expectations of mobile banking services for different generations of end users. The findings of their research suggest that, owing to the differences in comfort in use, generations display different characteristics (Generation X leans towards user-friendly functions, Generation Y prefers customized services, and Generation Z focuses on the user interface of the app).

The phenomenological study of Komulainen and Saraniemi (2019) attempted demonstrating the significance of focusing on the customer in mobile banking and highlighted the multidimensionality of customer experience (Komulainen & Saraniemi, 2019).

4.1.2. Mixed Studies Analysis

Four studies used mixed methods. First, Chahal and Dutta (2015) employed a qualitative study to identify and generate items on the five dimensions of customer experience, as identified by Schmitt, followed by a quantitative study aimed at finalizing the items based on item purification. Their study led to the development of a scale to measure customer experience in the banking sector. Given that this study is about banking in general, and not about mobile banking, it has only been used to gain an understanding of general sector specificities.

Another mixed study is that of Svilar and Zupančič (2016), who studied the perception of security and authentication methods and their impact on user experience. (Svilar & Zupančič, 2016) They used online surveys and interviews with experts and concluded that security is more important than user experience, although ease of use is an absolute requirement.

Wijland *et al.* (2016) also employed exploratory and confirmatory studies, the first of which was the Paprika method, a pairwise-ranking exercise in which the participant chooses between two alternatives. They found that young customers value basic applications that address money management concerns, as they are not interested in the features of exclusivity or gamification (Wijland et al., 2016).

Abadi *et al.* (2021) aimed to provide a model for customer experience management based on an exploratory mixed method consisting of grounded theory-based qualitative research and a cross-sectional survey method for the quantitative method (Abadi et al., 2021). Table 5 summarizes the dimensions and components of the experience management framework.

Table 5: Dimensions and components of the customer experience management framework

Dimension	Components
Value	Absolute values Relative values Background values
Cognitive	Knowledge audit Service quality Customer satisfaction Bank loyalty Customer loyalty
Motivational	Needs recognition Main services Customization Promise realization
Sensory	Mixed marketing Emotional tendencies
Physical	security, software, hardware
Behavioral	staff evaluation, citizenship behavior, flexibility, behavioral tendencies
Communication	Customer expectations Performance Follow-up

(Source: Authors, adapted from Abadi et al., 2021)

4.2. Definitions of concepts

4.2.1. Customer Experience

Not all studies have included definitions of the main constructs. **Error! Reference source not found.** and lists the **eight** definitions of customer experience provided by the authors, or cited from other researchers, on which the researchers based their studies.

All definitions acknowledge that customer experience is subjective and is based on individual perceptions and responses. In addition, the authors seem to agree that interactions and encounters between the service and customer are important (Al-Dmour *et al.*, 2019; Shams *et al.*, 2020), emphasizing that customer experience can occur at different touchpoints (Eren, 2021; Komulainen & Saraniemi, 2019; Rajaobelina *et al.*, 2021). In this regard, expectations and the comparison between the expected and actual outcomes are elementary to shaping customer experience (Al-Dmour *et al.*, 2019; Hung *et al.*, 2021).

However, a few differences emerge from these definitions. The ISO definition by Svilar and Zupančič (2016) considers customer experience as resulting from the anticipated use of a product or service, whereas Shams *et al.* (2020) link customer experience to direct and indirect contact with the firm (Shams et al., 2020).

4.2.2. Mobile Banking

Authors diverge in defining whether mobile banking is a tool (Jun & Palacios, 2016) software (Wijland et al., 2016), an app (Albashrawi et al., 2019), a capability (Abuhasan & Moreb, 2021)), a channel, or a service (Baabdullah et al., 2019; Rajaobelina et al., 2018; Ubam et al., 2021).

Nonetheless, they all agree on its usage, carrying financial/banking transactions using a mobile device. Some definitions include examples of such operations (Albashrawi et al., 2017; Jamshidi et al., 2018; Baabdullah et al., 2019; Albashrawi et al., 2019; Ubam et al., 2021). Zhou and Liu's definition cites account balance inquiries, transfers, bill payment and financial management (Zhou & Liu, 2014), and Jun and Palacios evoke managing financial accounts by using a mobile device (Jun & Palacios, 2016). Other everyday banking transactions include blocking lost cards, requesting check books, checking foreign exchange rates, finding ATM locations, requesting statements and even mobile brokerage (Jamshidi et al., 2018). Ubam et al. (2021) classify the functionalities into transaction-based (money transfer, bill payment, online shopping) and non-transaction-based (balance check, transaction history and transaction verification).

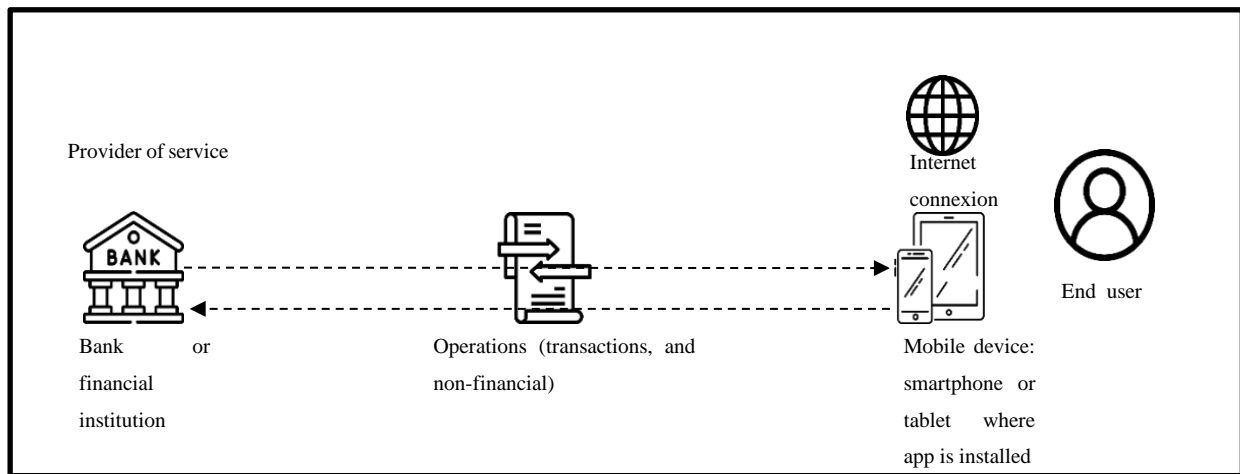
Mobile banking is often referred to as a result or a subset of m-commerce (Jun & Palacios, 2016; Wijland et al., 2016, Baabdullah et al., 2019). The use of mobile devices is references by Albashrawi et al. (2019) and by Abuhasan and Moreb (2021).

Other studies have listed the advantages of ubiquity (Albashrawi et al., 2017), connectivity (Rajaobelina et al., 2018), mobility and accessing the bank virtually anytime and anywhere (Baptista & Oliveira, 2017).

As Figure 5 shows, the mobile banking environment is composed of three elements:

- The bank or financial institution: the service provider
- The client: user of the mobile application, who should have access to an internet connection to carry the needed operations,
- The mobile application is installed by the user or client on a mobile device (smartphone or tablet) through which both transactions and non-financial operations are carried out.

Figure 4. Mobile Banking Environment.



(Source: Authors.)

4.3. Customer experience in banking

Important notions to be addressed when studying customer experience are the customer journey (before, during, and after), touchpoints, and customer dimensions.

Rajaobelina *et al.* (2018) studied customer experience in the context of mobile banking through the lenses of Schmitt by adopting the definition of Rose *et al.* (2012), who view mobile experience as a psychological state manifested as a subjective response to mobile services provided by e-retailers. Customer experience is currently at the heart of the digital strategies adopted by banks (Eren, 2021).

Building on the work of Pine and Gilmore (2011), Jamshidi *et al.* (2018) highlighted in their research that customers prefer experiences over the tangible value they get from using the product/service, and thus are considered key to winning the hearts and minds of customers. Memorable experiences represent a differentiation element upon which companies can build a competitive advantage and profitability (Rajaobelina *et al.*, 2021).

In their study, Mbama and Ezepue (2018) listed the different measuring tools pertinent to customer experience, namely: the four-dimensional brand experience scale developed by Brakus *et al.* (2009). The results of their study show that customer experience in digital banking is determined by service quality, functional quality, perceived value, employee-customer engagement, perceived usability, and perceived risk (Mbama and Ezepue, 2018). However, they demonstrate that customer experience and financial performance have no significant relationship (Mbama and Ezepue, 2018).

Customer experience is often confused with service quality and the two are different. Service quality is often characterized by simplicity, flexibility, time, and convenience. In their research, Abuhasan and Moreb, (2021) investigated the correlation between service quality resulting from digital transformation and customer experience (Abuhasan & Moreb, 2021).

Many authors have attempted to define the dimensions of customer experience. Schmitt's (1999) dimensions remain the primary ones, although several researchers have built their frameworks. Table 6 summarizes the main dimensions referenced by the authors of this literature review.

Table 6: Dimensions of customer experience referred to by authors in the review.

Author	Dimensions
Schmitt (1999)	Cognitive, affective, social/relational, physical/behavioral, sensory
Klaus and Maklan (2013)	Convenience, retention, service recovery, risk perception, satisfaction, loyalty intention
Liang et al. (2009)	Trust, loyalty, financial performance
Gentile et al. (2007) as reported by (Al-Dmour et al., 2019)	Sensorial, emotional, cognitive, pragmatic, lifestyle, relational

(Source: Authors)

4.4. Theoretical underpinnings

The review demonstrates that the authors do not agree on a single theory when it comes to studying customer experience in mobile banking. While some choose to present theories without basing their work on them (Rajaobelina *et al.*, 2019), others have referred to existing theories such as UTAUT and UTAUT2, commitment trust theory, flow theory, and ECT.

4.4.1. UTAUT and UTAUT2

The Unified Theory of Acceptance and Use of Technology (UTAUT2) of Venkatesh, Thong and Xu (2012) is an adaptation of the UTAUT model of Venkatesh, Morris, Davis, and Davis (2003).

In this review, UTAUT was used by Albashrawi *et al.* (2017, 2019) and UTAUT2 by Baptista and Oliveira (2017) and Baabdullah *et al.* (2019), in combination with the Delone and Mclean IS Success Model. (Albashrawi *et al.*, 2017, 2019; Baabdullah *et al.*, 2019). The use of UTAUT is encouraged because it includes demographic and experience factors, which are suitable for service-oriented research. However, most studies argue for its reliability and validity when it comes to adoption. The independent factors of UTAUT are performance expectancy, effort

expectancy, hedonic motivation, price value, habit, social influence, facilitating conditions and behavioural intention.

By addressing customers' expectations of performance and ease of use, organizations can design mobile banking platforms that meet or exceed these expectations, thereby increasing customer acceptance and usage. Creating an environment that encourages positive social influence through user testimonials or referrals can also promote the adoption of mobile banking services. Additionally, investing in facilitating conditions, such as providing reliable mobile network connectivity and offering user assistance, can further facilitate customer usage of mobile banking.

4.4.2. Expectation Confirmation Theory

Zhou *and* Liu (2014) employ revised ECT to examine post-adoption usage of mobile banking. The ECT provides a useful theoretical lens for explaining information system continuance. However, one drawback is that it does not consider emotional beliefs.

Developed by Oliver (1980) and later expanded by Anderson and Sullivan (1993), ECT proposes that customer satisfaction is influenced by the confirmation or disconfirmation of their initial expectations regarding a product or service. This theory is particularly relevant in the context of customer experience as it sheds light on the dynamics of meeting or exceeding customer expectations.

In the context of mobile banking, customers form expectations based on factors such as ease of use, reliability, security, convenience, and responsiveness of the platform. When their experiences align with these expectations, confirmation occurs, leading to higher levels of satisfaction and greater likelihood of continued usage.

Mobile banking services, by their nature, offer customers the convenience of accessing financial services anytime and anywhere. This convenience aligns with customers' initial expectations and contributes to their overall satisfaction (Kranzbühler et al., 2018). Positive confirmation of expectations regarding convenience can result in increased customer loyalty and positive word-of-mouth, thus enhancing the overall customer experience in mobile banking.

Security is another critical aspect of mobile banking experience. Customers have high expectations regarding the safety and privacy of their financial information when using mobile banking platforms. When these expectations are confirmed, customers feel more secure and satisfied with their mobile banking experience (Chen et al., 2018). The ECT theory can help

organizations in the mobile banking industry to identify the specific security measures and features that are vital for meeting customer expectations and maintaining trust.

Furthermore, ECT theory recognizes the role of post-adoption behaviors in determining the success of mobile banking services. Confirming customers' expectations can lead to positive post-adoption behaviors such as continued usage, increased engagement, and the likelihood of recommending mobile banking services to others (Bhattacharjee, 2001). By understanding the confirmation process and managing customer expectations, mobile banking providers can foster positive post-adoption behaviors and cultivate long-term relationships with their customers.

4.4.3. Flow theory

Zhou *and* Liu (2014) combine flow with revised ECT to study the post-adoption usage of mobile banking. The definition of flow they base their reflection on is that of Csikszentmihalyi and Csikszentmihalyi (1988), who consider it a holistic sensation resulting from acting with total involvement. According to the authors, this state is only reached when both skills and challenges exceed threshold values and have a good fit.

Flow theory suggests that individuals experience a state of optimal engagement and enjoyment when they are fully immersed in an activity that matches their skill level, and presents a balance between challenge and capability. Applying flow theory to the context of mobile banking provides insights into enhancing customer experience by creating seamless and enjoyable interactions. The dimensions of the flow concept are listed in Table 10.

In mobile banking, flow theory suggests that customers can achieve a state of flow when using mobile banking applications that offer a smooth, intuitive, and engaging experience. Flow is characterized by a sense of focus, involvement, and enjoyment during interaction (Csikszentmihalyi, 1990). Achieving flow in mobile banking can be facilitated by providing features and functionalities that align with customer capabilities, preferences, and goals.

Table 10: Dimensions of the concept of flow. (Source: Authors)

Dimension	Definition
Perceived enjoyment	Pleasure associated with using an information technology
Concentration	User's immersion while using a technology
Perceived control	User's feeling of control over the activity and the surrounding environment

(Source: Authors)

4.4.4. Commitment trust theory

According to Eren (2021), Morgan and Hunt (1994) developed the commitment-trust theory which underlines the importance of trust and commitment in different markets. They placed trust and relational commitment at the center of successful relationship marketing and they considered trust and relational commitment as the key to promoting the protection of relationship investment among stakeholders, ignoring attractive short-term offers of alternatives, and evaluating relatively risky transactions less risky (Eren, 2021).

In the financial context, where customers regard transactions as risky, trust is one of the most important factors shaping the commitment of customers to the bank and the product.

5. Discussion

The review demonstrates that the authors agree on the need for more research on customer experience in the digital banking context. “Today, mobile banking applications are not considered as additional benefits for customers, but they are considered an essential part of the customer-bank relationship, so the absence of these facilities will even change the bank on behalf of the customer.” (Abadi et al., 2021). In fact, the digitalization trends and the high penetration rates of internet are all in favor of shifting the focus on mobile banking from the adoption to the post acquisition phase. Nonetheless, the concept of the customer experience remains unpopular and largely unmeasured. This study has demonstrated that it has rarely been studied independently as a separate construct, which should encourage more studies to clarify it as an end in itself rather than as a means to satisfaction, loyalty, or trust.

Mobile marketing literature has primarily focused on the factors affecting adoption (e.g., Alalwan *et al.* 2018; Chaouali *et al.* 2017; Shaikh *et al.* 2015; Sohn 2017). Rajaobelina et al. (2018) found that few studies have examined the impact of service quality on customer relations (e.g.: Nilashi et al., 2015), and few have investigated mobile experiences (e.g. : Chen et al., 2018)). Using the flow concept, Chen *et al.* (2018) take into account the cognitive and affective dimensions only.

To electronically attract and retain customers, banks need to monitor and manage their banking interface and the overall environment (or servicescape), which forms the basis of the electronic banking experience (Waite and Rowley, 2015). Though it has been recognized that servicescape is an important environmental stimulus influencing consumers’ banking related transactions in electronic banking context in general, no studies till date examined how these servicescape cues affects consumers’ behavior related outcomes in M banking (Sahoo & S. Pillai, 2017).

Studying mobile channels is of critical importance because its knowledge is still limited. In fact; research on bank marketing has so far mainly concentrated on online banking services and studies on customers' experienced value in relation to mobile applications are scarce, if not altogether lacking (Komulainen and Saraniemi, 2019).

Conclusion

The scarce research results demonstrate that the topic of customer experience in mobile banking is still to be explored from different perspectives, namely, pertinent theories and research methodology. It has also been observed that the combination of quantitative and qualitative methodology papers has led to difficulties in the analysis.

The different results obtained by the authors regarding the factors and consequences of customer experience in mobile banking acknowledge the fact that the topic is to be scrutinized considering demographic (age, gender, etc.) and cultural variables. Accordingly, elderly and young users do not react similarly to the features of mobile banking applications (Rajaobelina et al., 2021). It would be relevant to extend the research to multiple countries instead of one at a time.

Moreover, studies should consider the attributes of mobile banking one at a time, namely functionalities, security, aesthetics and design, and flow, and study the impact of customer experience, satisfaction, and loyalty. This study can be expanded to solve a research problem around the impact of customer experience in mobile banking on satisfaction and loyalty.

Some authors have identified research streams that could be interesting to study. Gamification is one such concept. In fact, "marketers and financial service developers are encouraged to take cues from highly developed entertainment industries, such as video games and movies, to introduce more seductive aspects to m-banking design" (Jamshidi et al., 2018). Gamification can constitute a research stream to focus on when addressing customer experience in mobile applications in general.

The second is the interrelationship between the emotions. For example, Rajaobelina *et al.* (2021) demonstrated that, to avoid frustration caused by the use of mobile services, financial institutions can create explanatory video presentations (e.g., simple YouTube videos to explain how to deposit a check using a smartphone) or add a way to quickly reach a person for explanations (e.g., chat or phone)(Rajaobelina et al., 2021). In this regard, one possible research question to address can be: How to create a positive customer experience for mobile banking clients ?

One limitation of this study is that it was conducted on a relatively recent topic; hence, the number of pertinent studies was limited. In fact, some of the papers reviewed address customer experience in mobile banking without focusing on it. Additionally, this study was limited to specific databases and may have overlooked important research published elsewhere. However, the authors are not aware of any papers that were missed, other than those not in English, which may need to be translated for inclusion in future literature reviews.

The limitations of this research constitute a ground for future scientific investigations. Further research on customer experience in mobile banking can take different directions and will benefit not only the theoretical field but also the banking industry and customers.

In fact, research on this topic can also have managerial implications. For example, our research sheds light on the dimensions of customer experience which banks need to address while designing their mobile banking apps. In addition, knowing the relationship between customer experience and satisfaction and loyalty could drive banking managers to shift the focus from user experience (focusing solely on the user interface) to the whole customer journey.

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