



What Drives Customer Loyalty in Digital Banking? Insights From A Systematic Literature Review of Technology Acceptance and Hedonic– Utilitarian Perspectives

Adhelia Budi Pratiwi*, Novita Ikasari

Universitas Indonesia, Indonesia

Email: Adhelia.budi41@ui.ac.id*, novita.ikasari29@ui.ac.id

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Abstract

Digital banking has transformed the way financial institutions deliver services and maintain customer relationships in an increasingly competitive digital environment. Although prior studies have extensively examined technology adoption, the formation of customer loyalty in digital banking remains fragmented, particularly when technology acceptance, hedonic–utilitarian motives, and customer satisfaction are considered collectively. This study aims to synthesize existing empirical evidence regarding the factors that drive customer loyalty in digital banking. Using a Systematic Literature Review (SLR) method guided by the PRISMA 2020 framework, this study reviewed peer-reviewed English-language journal articles published between 2016 and 2026 from Scopus, Emerald Insight, ScienceDirect, and SpringerLink. Following the identification, screening, eligibility assessment, and quality evaluation processes using Parsifal, 43 articles were included in the final synthesis. The findings indicate that perceived ease of use and perceived usefulness remain fundamental determinants of digital banking adoption, while utilitarian motives, such as efficiency, convenience, and functional benefits, more consistently influence customer satisfaction and loyalty. Hedonic motives, including enjoyment and engagement, also contribute to loyalty, although their effects vary depending on contextual factors. Customer satisfaction serves as a key mediating mechanism that links technology acceptance and user experience with customer loyalty. This study concludes that digital banking loyalty is a multidimensional construct involving continued usage intention, satisfaction, emotional attachment, and customer advocacy.

INTRODUCTION

The advancement of digital technology has transformed how the banking industry provides services to the public through digital banking, mobile banking, internet banking, and other digital financial services. Customers can now complete transactions more quickly, efficiently, and without temporal or geographical constraints. In addition to changing banking business models, this transformation has encouraged academics to focus more on how banks can establish long-lasting relationships with customers in increasingly competitive digital environments rather than merely adopting digital technologies. In this regard, most previous research has positioned customer loyalty as a strategic necessity for the long-term success of digital banking, emphasizing banks' ability to retain existing customers, encourage repeat usage, foster commitment, and stimulate positive word-of-mouth recommendations. The impact of customer loyalty on business performance is well established through sustained profitability, reduced customer acquisition costs, and stronger competitive advantage. Despite its significance, the process through which customer loyalty develops in digital banking remains insufficiently understood.

Existing studies have predominantly examined this issue from the perspective of technology adoption. Relying heavily on the Technology Acceptance Model (TAM) to explain

why users accept and utilize new technologies, previous findings confirm that perceived ease of use and perceived usefulness are two paramount determinants influencing users' attitudes, behavioral intentions, and actual adoption of digital banking services. Consequently, evidence regarding how ease of use and perceived benefits encourage technology acceptance has been well documented (Rodrigues et al., 2017; Gbadebo Salimon et al., 2020; Chanda et al., 2024; Mousa et al., 2021; George & Sunny, 2022; Le, 2021). However, the dominant focus on technology adoption has only partially explained customer behavior. It provides relatively limited insights into how digital banking users develop into committed customers who maintain long-term relationships with service providers, indicating the need for perspectives that extend beyond technology adoption.

Recognizing the limitations of the TAM framework, scholars have expanded the application of this model by incorporating external factors to enhance its explanatory capability. Determinants such as gamification, interface design, electronic service quality, infrastructure and security, electronic word-of-mouth, environmentally friendly technology considerations, and trust have been examined alongside TAM (Gbadebo Salimon et al., 2020; Chanda et al., 2024; Mousa et al., 2021). These developments suggest that digital banking behavior is shaped by complex interactions among technological, organizational, and environmental factors. Nevertheless, the primary focus of most studies remains on improving technology usage and facilitating the effective implementation of digital services rather than fostering long-term customer commitment and loyalty. Consequently, the pathways connecting technology acceptance to loyalty remain fragmented and insufficiently developed.

The growing body of literature indicates that rational assessments of utility and user-friendliness are insufficient to fully explain digital banking behavior. The hedonic–utilitarian perspective suggests that consumers evaluate digital services based on both experiential value and functional benefits simultaneously (Jamshidi et al., 2018; Akel & Armağan, 2020; Kelly, 2024). Practical considerations, including efficiency, convenience, and performance enhancement, are reflected in utilitarian motives, whereas hedonic motives capture emotional gratification, excitement, and enjoyment derived from service usage. However, empirical findings remain inconsistent across different contexts, although previous studies have demonstrated that these motivations influence continuance intention, flow experiences, trust, and satisfaction. In digital banking, the extent to which hedonic and utilitarian motives contribute to the formation of customer loyalty remains uncertain and requires further synthesis to better explain digital banking loyalty mechanisms.

The existing literature also identifies customer satisfaction as an important variable that has been positioned in various ways: as a direct antecedent of customer loyalty, as a mediating mechanism between user experience and future user behavior, as a determinant of continuance intention, or as a factor that enhances sustainable usage (Akel & Armağan, 2020; Sleiman et al., 2022; George & Sunny, 2022; Chetioui et al., 2023). Such conceptual diversity reflects the absence of theoretical consensus regarding the role of customer satisfaction in digital banking loyalty, as it has been considered an antecedent, mediator, consequence, or evaluative mechanism. Moreover, because many studies primarily focus on adoption-related outcomes, customer loyalty has often been narrowly operationalized as continuance intention, overlooking broader dimensions such as commitment, retention, advocacy, and preference. As a result, the interrelationships among technology acceptance, hedonic and utilitarian motivations, customer satisfaction, and customer loyalty remain only partially explained and dispersed across multiple theoretical paradigms.

The need for a more comprehensive understanding of customer loyalty antecedents is further emphasized by recent developments in digital financial services. The emergence of digital-only banks, artificial intelligence-enabled services, gamified applications, and increasingly personalized user experiences has introduced new dynamics into customer relationships. Evidence from various countries and demographic groups suggests that users' evaluations and commitments toward digital banking services are influenced by cultural contexts, generational characteristics, emotional experiences, and post-adoption experiences (Salimon et al., 2021; Muflih, 2020; Ogedengbe & Abdul-Talib, 2020; Kimiagari & Baei, 2022; Maduku & Thusi, 2023; Saibaba, 2025; Tran et al., 2026). The advancement of artificial intelligence and the emergence of digital-only banking have also created new research opportunities for examining customer loyalty through similar perspectives. Although these developments indicate a gradual transition from adoption-centered perspectives toward retention- and relationship-oriented outcomes, existing evidence remains fragmented across diverse empirical contexts and theoretical traditions.

Although these studies have expanded perspectives on user experience, continuous usage, and customer orientation, the mechanism through which customer loyalty develops by integrating perceived ease of use, perceived usefulness, hedonic motives, utilitarian motives, and customer satisfaction has not received sufficient attention in scientific research. Overall, three significant gaps are identified in the existing literature. First, the development of comprehensive customer loyalty has been inadequately explained, as research has primarily concentrated on technology adoption and continuance intention. Second, the integration of hedonic–utilitarian motives with technology acceptance perspectives remains limited, restricting a comprehensive understanding of the combined influence of emotional experiences and rational evaluations on loyalty formation. Third, the role of customer satisfaction in digital banking loyalty models remains theoretically fragmented and empirically inconsistent.

Given these gaps, a systematic synthesis of the literature is warranted. A rigorous approach for consolidating fragmented evidence, identifying patterns and inconsistencies, evaluating the evolution of theoretical perspectives, and establishing future research agendas is provided through systematic literature reviews. To synthesize the current state of knowledge regarding the interplay between technology acceptance factors, hedonic–utilitarian motives, and customer satisfaction, this study systematically reviews the existing literature on customer loyalty in digital banking.

The following research questions are specifically addressed in this review: (1) How has customer loyalty been conceptualized and explained in digital banking research? (2) How has customer loyalty been operationalized and measured? (3) What are the relationships between technology acceptance factors, particularly perceived ease of use and perceived usefulness, customer satisfaction, and loyalty? (4) To what extent do hedonic and utilitarian motives influence customer loyalty? and (5) How has customer satisfaction been positioned within digital banking loyalty models? Thus, this article not only synthesizes the development of the literature but also provides a stronger conceptual foundation for theoretical advancement and empirical research on customer loyalty within the continuously evolving digital banking ecosystem.

METHOD

Study Design

This study employed a Systematic Literature Review (SLR) methodology to identify, evaluate, and synthesize empirical evidence on customer loyalty in digital banking from the perspectives of technology acceptance, hedonic–utilitarian motives, and customer satisfaction. The research design was developed systematically using the Parsifal platform as a review management tool, following a structured workflow consisting of literature search, article screening, quality assessment, and final study selection. The scope of the review was defined using the PICOC framework, which included digital banking users as the population, perceived ease of use, perceived usefulness, hedonic motives, and utilitarian motives as the main intervention factors, customer loyalty and customer satisfaction as the outcomes, and digital banking services as the research context. The article identification and selection process followed the PRISMA 2020 guidelines, documenting each stage from identification to final inclusion in the synthesis. All selected articles were subjected to quality assessment using the instruments provided by Parsifal to evaluate methodological rigor, construct clarity, research relevance, and suitability for inclusion in the synthesis.

Inclusion and Exclusion Criteria

In order to guarantee that only articles that are pertinent to the research objectives are reviewed and analyzed, inclusion and exclusion criteria have been established from the outset. The included study must discuss digital banking services from a customer or user perspective, test technology acceptance and/or hedonic–utilitarian motives, and include customer satisfaction, customer loyalty, or other loyalty outcomes. Furthermore, the article must be in the form of a peer-reviewed scientific journal, written in English, available in full-text form, and in the context of digital banking, such as mobile banking, internet banking, online banking, banking applications, or digital-only banking. Meanwhile, research that focuses on the perspectives of an organization, employees, internal systems, or technology infrastructure without incorporating the user's perspective is excluded from the analysis. Articles that do not investigate acceptance technology, hedonic-utilitarian motives, satisfaction, or loyalty are also excluded. Furthermore, duplicate articles, not published in peer-reviewed journals, not entirely accessible, not a quantitative research, or not written in English are also excluded in the synthesis process. These criteria are used uniformly and consistently throughout the selection process for titles, abstracts, and full texts to ensure the coherence of the review's scope. Table 1 illustrates the comprehensive framework of these criteria.

These criteria permit the restriction of studies that investigate factors that influence customer loyalty of digital banking services, with an emphasis on technology acceptance and utilitarian-hedonic perspectives, as mediated by customer satisfaction. The identification and selection of studies that were in alignment with the objectives of this systematic review were facilitated by the systematic and consistent application of all criteria during the selection process.

Tabel 1. Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria	Reasons for Use
Conducted in a digital banking context, such as mobile banking, internet banking, online banking, banking applications, and digital-only banking.	Focus on other than digital banking or do not have an explicit banking context.	To ensure that the entire research article includes context related to digital banking or banking service applications.
Focus on customers or users of digital banking services.	Focus only on the employees' perspective, the managers' perspective, internal systems, IT infrastructure, or organizational adoption.	To ensure that synthesis is carried out from the customer/user perspective.
Investigate technology acceptance factors and/or hedonic–utilitarian motives.	Not addressing technology acceptance, hedonic–utilitarian motives, customer satisfaction, customer loyalty, or related post-adoption outcomes.	To ensure the coherence of conceptual framework and research question of the research.
Include customer satisfaction, customer loyalty, or other loyalty-related outcomes.	Not published in a peer-reviewed journal, not written in English, not available in full text, not quantitative research, or is a duplicate record.	To ensure quality assurance, credibility, relevance, and consistency of the analyzed data

Information Search

The literature search was conducted using four internationally recognized and highly reputable international scientific databases, namely Scopus, Emerald Insight, ScienceDirect, and SpringerLink, as established at the planning stage in Parsifal. The four databases were chosen due to their extensive coverage of reputable publications in management, information systems, marketing, and digital financial services. Consequently, they are suitable for the identification of research on customer loyalty in digital banking. In order to identify the most recent developments in digital banking research regarding customer loyalty, the search is concentrated on studies that were published within the past decade, specifically from 2016 to 2026. The search on the four databases (Scopus, Emerald Insight, ScienceDirect, and SpringerLink) was conducted between May 21 and May 29, 2026. All articles obtained from each database are then imported into Parsifal for systematic deduplication, filtering, quality assessment, and data extraction. The centralization of the literature management process on a single platform also aims to maintain transparency, consistency in documentation, and reproducibility of research.

Search Strategy

The search strategy is compiled using a combination of Boolean operators and synonyms of the research's main construct to capture variations in terms used in the literature. In the Scopus database, the investigative method used is to integrate Boolean operators (AND and OR) to connect the main constructs of prior research. The keywords used include a variety of digital banking services, such as "digital banking", "mobile banking", "internet banking", "online banking", and "digital-only banking", combined with terms related to customer loyalty ("customer loyalty", "user loyalty"), customer satisfaction ("customer satisfaction", "user satisfaction"), Technology Acceptance Model constructs such as "perceived ease of use" and

"perceived usefulness", as well as utilitarian and hedonic motivation perspectives through the terms "utilitarian motivation", "utilitarian value", "hedonic motivation", and "hedonic value". The search was also limited to journal articles (document type: article), in English, published in the period 2016–2026, and filtered using relevant indexed keywords such as Technology Acceptance Model, Customer Satisfaction, Perceived Usefulness, Perceived Ease of Use, Hedonic Motivation, Digital Banking, Mobile Banking, and Internet Banking.

For the SpringerLink database, this study used the following search strategies: ("digital banking" OR "mobile banking" OR "internet banking" OR "online banking" OR "digital-only banking") AND ("customer loyalty" OR "customer satisfaction" OR "continuation intent" OR "reuse intent" OR "recommendation") AND ("technology acceptance model" OR "perceived usability" OR "perceived ease of use" OR/AND "hedonic value" OR "hedonic motive" OR "value utilitarian" OR "utilitarian motive").

Given the limited indexing structure and search system in Emerald Insight, simpler queries are used while remaining conceptually aligned. Search strategies in the Emerald Insight database are focused on ("digital banking" AND "customer loyalty" AND "digital banking" AND "customer satisfaction" AND "digital banking" AND "perceived ease of use" AND "digital banking" AND "perceived usability" AND "digital banking" AND "utilitarian" AND "digital banking" AND "hedonic").

Meanwhile, the search strategy on ScienceDirect is also more complex due to the platform's search and indexing limitations compared to other databases. Therefore, a combination of core keywords that represent the main concepts of the study is used, namely ("digital banking" OR "digital-only banking") AND ("customer loyalty") AND ("customer satisfaction") AND ("perceived ease of use" OR "perceived usefulness") AND ("utilitarian" OR "hedonic").

The combination was developed based on the predetermined PICOC, with the population in the form of digital banking users, interventions in the form of technology acceptance and hedonic-utilitarian motives, and outcomes in the form of customer satisfaction and customer loyalty. In addition to using these general search strings, each database also implements syntax adjustments according to the characteristics of the search engine, such as restrictions on the types of documents (e.g., journal articles), language (e.g., English), and publication year range in Scopus. This search strategy is designed to obtain previous studies that have conceptual relevance and are in line with the focus of the systematic review, so that they can answer all research questions that have been formulated.

Study Selection Process

The study selection process was conducted using the Parsifal platform, with reference to the PRISMA 2020 flow diagram compiled in this study. Based on the initial search results, 179 articles were obtained: 112 from Scopus, 25 from Emerald Insight, 21 from ScienceDirect, and 21 from SpringerLink, using the established search strategies for each database. The differences in the number of publications retrieved from each database reflect the distinct indexing characteristics and search strategies used on each platform. Scopus generates a larger number of articles because it uses a more comprehensive search string with various synonyms and Boolean operators, and filters based on relevant indexed keywords. In addition, the Scopus database provides broader coverage of multidisciplinary indexes and incorporates scientific works from a wide range of international publishers.

In contrast, Emerald Insight, ScienceDirect, and SpringerLink have more limited coverage of their respective publishers' publications. At the same time, the search strategies on ScienceDirect and SpringerLink are simplified to align with the capabilities of their respective search systems. After the identification process, up to 7 duplicate articles were removed using the Parsifal automatic detection system and then manually verified, leaving 172 articles to be systematically filtered by researchers from titles and abstracts. At the screening stage, 126 articles were excluded for failing to meet the previously defined inclusion criteria. This initial screening stage resulted in 46 articles, which then underwent a full-text evaluation and quality assessment process using four quality assessment questions related to the suitability of the research scope, clarity of the research design, operationalization of the main construct, and empirical support for the research findings. The quality assessment uses the scales Good (0.8), Average (0.6), and Bad (0.5), with a cutoff score of 2.6. Based on the evaluation, 3 articles were excluded for failing to meet the set quality standards, resulting in 43 final articles used in the synthesis process. These selection steps are systematically documented through the PRISMA 2020 flowchart.

Data Extraction

The data extraction process is carried out systematically using the Parsifal platform, which is a digital tool specifically designed to support the management and analysis of systematic literature review (SLR). The use of Parsifal allows for the management and analysis of data in a structured, consistent, and documented manner thereby increasing the transparency and reproducibility of research. Before extraction, the researcher determined a set of variables arranged based on the research question and the PICOC framework so that each article was evaluated using uniform indicators. The variables extracted included the identity of the study (research title, author, year of publication, journal name, and country context), type of digital banking service studied, characteristics of the user population, industry context, theoretical perspective used, technology acceptance, hedonic–utilitarian construct, existence of customer satisfaction and its role in the research model, customer loyalty formation model, relationship path between variables, main predictors of customer satisfaction and customer loyalty, research design, analysis techniques, main findings, research limitations, future research direction, and relevance to this systematic literature review. All information is extracted directly from the full article manually and recorded consistently into the data extraction form in Parsifal. This approach facilitates comparative analysis in various studies regarding theoretical frameworks, methodological approaches, and empirical findings, thereby improving the synthesis process in a comprehensive and holistic manner. In addition, the detailed data extraction structure facilitates the identification of conceptual and methodological gaps that are still open in research on digital banking customer loyalty.

Bias Assessment

To ensure the quality of the synthesised articles, all studies that pass the screening stage undergo a quality assessment using the evaluation instruments established in the Parsifal protocol. The assessment was carried out based on four main questions, namely: (1) whether the research is in line with the scope of the review regarding digital banking, customer perspectives, and outcomes related to satisfaction or loyalty; (2) whether the research design and implementation procedures are clearly described, including the research context, sampling strategy, data collection, and respondent characteristics; (3) whether the main constructs such

as perceived ease of use, perceived usefulness, hedonic motives, utilitarian motives, customer satisfaction, and customer loyalty are adequately defined and operationalized; and (4) whether the results of the study are clearly presented and supported by adequate empirical evidence. The assessment process is carried out independently by the researcher. Each study was assessed on all four questions, and overall quality was determined by summing the assessment results. Each question is scored using the categories Good (0.8), Average (0.6), and Bad (0.5), so the maximum possible score is 3.2, with a cutoff of 2.6. Articles that obtained scores below this limit were not included in the final synthesis because they were considered to have not met the methodological standards required to answer the research questions of this study. Through the quality assessment mechanism, the selection process considers not only the relevance of the topic but also the quality of the methodology and the strength of the evidence presented by each study, to minimize the risk of bias in the results of the systematic review.

Synthesis of Results

The synthesis of results was conducted using a narrative approach, integrating findings from all articles that met the inclusion criteria and passed the quality assessment. Given that the studies varied in country context, types of digital banking services, theoretical frameworks, constructs used, and statistical analysis methods, a quantitative meta-analysis was not conducted. Instead, the synthesis process focuses on identifying patterns, consistency, and differences in findings across studies relevant to the six formulated research questions. The results of the extraction were then grouped based on conceptual dimensions, including the formation of customer loyalty, conceptualization and measurement of loyalty, the influence of perceived ease of use and perceived usefulness on customer satisfaction and customer loyalty, the role of hedonic–utilitarian motives, the position of customer satisfaction in the digital banking loyalty model, and conceptual, methodological, and contextual gaps that appear in the literature. The grouping allows for the identification of dominant tendencies, inconsistencies in empirical results, as well as opportunities to develop more comprehensive conceptual models. With this approach, the synthesis not only summarizes the results of previous research but also results in the integration of knowledge that supports the preparation of future research agendas regarding customer loyalty to digital banking services.

Methodological Limitation

Although this systematic review was conducted methodically and transparently, it has some methodological limitations. First, the literature identification process is limited to four scientific databases, namely Scopus, Emerald Insight, ScienceDirect, and SpringerLink. It includes only English-language peer-reviewed journal articles available in full text. Second, although the main scope of the study was focused on the context of digital banking, the selection process found that the number of studies that simultaneously discussed technology acceptance, especially perceived ease of use and perceived usefulness, along with customer satisfaction or customer loyalty, as well as integrating hedonic–utilitarian perspectives, was still relatively limited. Therefore, in order to obtain a more comprehensive conceptual synthesis and to answer the formulated research questions, this study also includes studies from other digital contexts with comparable technological characteristics and user behavior, such as e-wallets, mobile wallets, e-commerce, mobile applications, fintech, and mobile internet. The expansion of the scope is based on the consideration that these services both utilize digital platforms, applications, and internet networks as the primary medium of service delivery, thereby

involving technology acceptance mechanisms, evaluations of functional and hedonic benefits, user satisfaction, and relevant post-adoption behaviors for comparative analysis. However, differences in industry characteristics, use objectives, and business models across types of digital services may account for variations in empirical findings, so the results of the synthesis need to be interpreted in light of each study's context. In addition, this study uses a narrative synthesis approach. It does not conduct quantitative meta-analysis due to heterogeneity in the theory used, operational constructs, types of digital services, and analysis methods in the reviewed studies. Thus, the findings are more focused on identifying patterns, consistency, and conceptual and methodological gaps than on estimating effect sizes statistically. All of these methodological decisions are explicitly documented to maintain the transparency of the research and allow the process to be replicated by other researchers. This approach is also consistent with the objectives of SLR, which seeks to map the development of the literature on the formation of customer loyalty through the integration of technology acceptance, hedonic–utilitarian perspectives, and customer satisfaction in various digital service contexts that have similar usage characteristics.

RESULTS AND DISCUSSION

Study selection

A literature search across four databases yielded 179 articles: 112 from Scopus, 25 from Emerald Insight, 21 from ScienceDirect, and 21 from SpringerLink. All of these articles are uploaded into the Parsifal software for deduplication and filtering. In the initial stage, 7 duplicate articles were identified, so the number of articles deemed to meet the inclusion criteria and to have sufficient methodological quality for inclusion in the synthesis process was 43 (see Figure 1). The selected studies were published between 2016 in 2026 and examined the adoption of digital banking services from the users' perspective. Most of these studies use a quantitative approach, with the survey dissemination method as the dominant research design.

Characterisation of the studies

The characterization of 43 eligible articles shows that research on customer loyalty in digital banking is spread across various geographical regions and is published in international English-language journals. All articles included in the synthesis are peer-reviewed journal articles in English and are available in full text, in accordance with the inclusion criteria set at the research planning stage. The studies came from a wide range of country contexts, with most of the studies coming from India ($n = 10$; 23.3%), followed by Nigeria ($n = 4$; 9.3%), then Iran ($n = 2$; 4.7%), the United States ($n = 2$; 4.7%), Indonesia ($n = 2$; 4.7%), Pakistan ($n = 2$; 4.7%), Vietnam ($n = 2$; 4.7%), Saudi Arabia ($n = 2$; 4.7%). The rest of the study came from Turkey, Bangladesh, Poland, Sudan, Iraq, Fiji, Morocco, Ghana, Algeria, Malaysia, Lebanon, South Africa, Canada, Albania, Finland, the United Kingdom, France, Singapore, South Korea, Nigeria, and Uzbekistan. The variety of research locations reflects the wide application of digital banking services in various economic systems and technological environments. In addition, the service objects studied are diverse, including digital banking, mobile banking, internet banking, online banking, e-banking, smartphone banking, mobile payments, mobile wallets, and digital-only banking. The diversity of geographical contexts and types of services shows that research on customer loyalty has developed in various forms of digital financial

services with different characteristics. However, all research efforts show a common emphasis in the user's or consumer's point of view as the main unit of analysis.

In terms of methodology, the characteristics of the reviewed studies indicate a dominance of survey-based quantitative approaches and the use of Structural Equation Modeling (SEM) as the primary analytical technique. Most studies use cross-sectional designs to test the causal relationship between technology acceptance constructs, user motivation, satisfaction, and post-adoption outcomes. Only a small percentage of articles use conceptual approaches or literature reviews, while qualitative or mixed methods research is almost not found in the final sample. In terms of disciplines, most articles come from information systems, management, marketing, consumer behavior, financial technology (fintech), and digital banking, with an emphasis on user behavior in the adoption and use of digital services. These characteristics show that digital banking loyalty research is developing in a multidisciplinary manner, but it remains dominated by the paradigm of user behavior and technology acceptance.

Characteristics of customer loyalty research

The characteristics of research on customer loyalty in the context of digital banking show variations in service objects, the conceptualization of loyalty, the constructs used, and the position of customer satisfaction in the research model. Based on 43 articles analyzed, the research objects include digital banking, mobile banking, internet banking, online banking, e-banking, smartphone banking, digital-only banking, mobile payment, and mobile wallet. Throughout the study, the analysis unit focused on customers or users of digital services as the primary respondents. Most articles use mobile banking or e-banking services as an empirical context, while others examine internet banking, digital banking in general, or digital payment services. The variation in context is reflected in the different types of services under study, but the entire study remains within the scope of technology-based digital financial services. In addition, some research examined conventional banks that offer digital channels, while other research focused on purely digital services or mobile-based financial applications. These characteristics indicate that the scope of the reviewed research encompasses various implementations of digital banking and digital financial services with similar usage characteristics.

In terms of conceptualizing dependent variables, most articles do not use customer loyalty as the main outcome but instead use constructs related to post-adoption behaviors, such as behavioral intention, intention to use, adoption, actual usage, continuance intention, reuse intention, and retention. Several studies have measured loyalty explicitly through customer loyalty or attitudinal loyalty, while other studies use continuance intention as an indicator of the sustainability of digital service use. Some studies also include recommendation intention and word-of-mouth intention as forms of loyalty behavior. However, there are differences in terminology and operational definitions of loyalty in the literature examined. This divergence can be observed both within the conceptual framework and the metrics used in the research model. Despite the diverse terminology used, the thorough investigation focused on outcomes related to the sustainability of users' relationships with digital services. The data extraction results show that the use of continuance intention as a dependent variable is more common than the use of direct customer loyalty.

Another characteristic found is the variation in customer satisfaction positions in conceptual models. Some studies include customer satisfaction as a mediating variable, while

others place it as a direct predictor of loyalty outcomes or as a consequence of actual use of digital services. In addition, some articles do not include customer satisfaction in the research model and focus more on constructs such as attitude, trust, or behavioral intention. According to the findings from the extraction process, the most commonly tested relationship concerns the interaction among perceived ease of use, perceived usefulness, hedonic motivation, utilitarian motivation, customer satisfaction, and various post-adoption outcomes such as continuance intention, continuance use, or customer loyalty. This diversity reflects variations in the empirical model's framework across the articles reviewed. These differences were also evident in the relationship pathways tested and in the conceptual significance of customer satisfaction in each study.

From a theoretical construction point of view, the literature reviewed primarily features the Technology Acceptance Model (TAM) and its various developments and adaptations. The most commonly used constructs include perceived ease of use and perceived usefulness, which in some studies are combined with trust, perceived security, service quality, attitude, facilitating conditions, or social influence. In the hedonic–utilitarian perspective group, the most common constructs include hedonic motivation, hedonic value, perceived enjoyment, utilitarian motivation, utilitarian value, application utility, and application quality, as well as developments such as gamification and flow experience. Some articles test one of these groups of constructs separately, while others combine several constructs in the same model. The results of the extraction also show that studies that simultaneously integrate perceived ease of use, perceived usefulness, hedonic motives, utilitarian motives, customer satisfaction, and customer loyalty remain relatively limited compared with studies that test only some of these constructs. This presentation describes the general characteristics of the reviewed article without providing an interpretation of the implications or causal relationships between the findings.

RQ1: How has prior research explained customer loyalty formation in digital banking by integrating technology acceptance, hedonic–utilitarian motives, and customer satisfaction?

A discussion of Research Question 1 (RQ1) shows that previous studies generally describe the formation of customer loyalty in digital banking as a process that progresses from acceptance of technology to post-adoption evaluation and to long-term customer relationships, although the mechanisms used vary. The dominant pattern is the use of the Technology Acceptance Model (TAM) and its extensions, such as the UTAUT and UTAUT2, to explain user behavior in the early stages of digital service adoption. Rodrigues et al. (2017), Gbadebo Salimon et al. (2020), Mousa et al. (2021), Baabdullah et al. (2019), Alalwan et al. (2018), and Kimiagari & Baei (2021) consistently show that perceptions of ease of use and benefits of technology are the main cornerstones that shape the acceptance of digital services. However, a synthesis of all studies shows that the focus is gradually shifting from simply explaining the decision to use technology to understanding how to maintain the user experience in the long term. This shift is reflected in the growing number of studies that include constructs such as continuance intention, actual usage, and customer satisfaction in their conceptual models. Nonetheless, most existing studies have focused their analyses on the usage retention phase and do not explicitly frame customer loyalty as the primary outcome. Therefore, the general pattern emerging from the literature is that loyalty is viewed as a continuation of successful technology adoption. However, the mechanisms of its formation remain scattered across various theoretical frameworks and have not been fully integrated.

When comparing studies, it can be seen that the relationship between technology acceptance and loyalty evolves through the expansion of models that incorporate various external factors, tailored to the characteristics of digital banking services. Gbadebo Salimon et al. (2020) expanded TAM by including e-trust and security as mechanisms that strengthen e-banking adoption, while Chanda et al. (2024) combined perceived usefulness and perceived ease of use with electronic service quality, electronic word of mouth, and attention to environmentally friendly technology to explain attitudes towards e-banking. Mousa et al. (2021) emphasized the importance of banking reputation, service excellence, and digital infrastructure in shaping technology acceptance, while Rodrigues et al. (2017) highlighted the contributions of gamification and interface design quality to the user experience. On the other hand, Alalwan et al. (2018) and Baabdullah et al. (2019) show that expanding the technology acceptance model by incorporating variables such as perceived enjoyment, innovation, and trust can increase its explanatory power for user behavior compared to using classical TAM constructs separately. Laradi et al. (2023) and Kimiagari & Baei (2021) also indicate that actual use of digital services is influenced by a combination of technological factors and environmental readiness, not solely by perceptions of benefits and convenience. Overall, the findings show a consistent pattern: technology acceptance is an important prerequisite for building customer relationships in digital banking, but its influence becomes stronger when combined with contextual factors shaping the user experience. Thus, previous literature shows the evolution from a simple technology acceptance model to a more multidimensional approach in explaining the sustainability of customer relationships.

In addition to the dominance of the technology acceptance perspective, the synthesis also shows that hedonic–utilitarian motives are becoming an increasingly important component in explaining why customers continue to use digital services after the initial adoption stage. Akel & Armağan (2020) provide evidence that hedonic and utilitarian benefits together increase sustainable use intentions through user satisfaction, thereby positioning emotional experience and functional benefits as two complementary dimensions. The findings are strengthened by the findings of Jamshidi et al. (2018), which show that hedonic and utilitarian features improve the flow experience and ultimately strengthen trust and intention to continue using mobile banking. Salimon et al. (2021) affirm that hedonic motivation and gamification make a real contribution to smartphone banking use, while Kelly (2024) shows that hedonic and utilitarian values simultaneously influence the intention to use in digital financial services sustainably. Muflih (2020) also showed that combining hedonic and utilitarian motivations improves the user experience, thereby reinforcing positive evaluations of services. However, Sleiman et al. (2022) found different results, showing that hedonic motivation negatively affects continuance intention in the Sudanese context, indicating that emotional benefits are not always the main drivers of post-adoption behavior. These differences show that the hedonic dimension is highly sensitive to social, economic, and cultural contexts. In contrast, the utilitarian dimension tends to be more stable because it is directly related to the service's efficiency and practical benefits. Therefore, the literature as a whole suggests that the formation of digital banking loyalty is based not only on rational considerations but also on how users interpret their experience using the service.

The results of the synthesis further show that customer satisfaction serves as a mechanism linking technology acceptance and usage motivation to customer loyalty, although the

conceptual position varies across studies. Akel & Armağan (2020), George & Sunny (2022), and Sleiman et al. (2022) identify satisfaction as a mediator explaining how users' perceived benefits translate into sustainable use. Chetioui et al. (2023) expand on this relationship by showing that actual use increases satisfaction, which in turn strengthens attitudinal loyalty, while Ogedengbe & Abdul-Talib (2020) emphasize the importance of the post-use experience in sustaining customer relationships with electronic services. In contrast, some other studies have focused more on attitudes, beliefs, or technology adoption so that satisfaction is not a major variable in their models, as seen in Rodrigues et al. (2017), Gbadebo Salimon et al. (2020), Chanda et al. (2024), and Mousa et al. (2021). Despite these variations, the patterns that have consistently emerged suggest that satisfaction serves as a comprehensive evaluation of the user experience, increasing the likelihood that customers will retain service use and develop long-term commitments. In other words, customer satisfaction is the meeting point between the cognitive dimension, represented by technology acceptance, and the affective dimension, represented by hedonic–utilitarian motives. The integration of these three components makes it clear that loyalty develops through a combination of perceived benefits, user experience, and positive evaluation of the service, rather than from a single factor.

Based on the overall synthesis, the answer to RQ1 is that previous research explains the formation of customer loyalty in digital banking as a result of dynamic interactions between technology acceptance, hedonic–utilitarian motives, and customer satisfaction. However, the integration of the three is still not carried out consistently in a single conceptual model. Most studies begin with an explanation of perceived ease of use and perceived usefulness as the foundation of technology adoption, then expand to include hedonic motivation, utilitarian benefits, gamification, trust, quality of service, and various other external factors to improve the predictability of user behavior. In the next stage, customer satisfaction serves as an evaluative mechanism that links the user experience to continued use or some form of loyalty. However, the outcomes still tend to be dominated by behavioral intention, continuance intention, or actual usage rather than explicit customer loyalty. These findings have academic significance because they show that the literature has moved beyond the technology adoption paradigm towards a more comprehensive understanding of customer retention. However, it still leaves conceptual fragmentation that requires further synthesis. From a scientific contribution perspective, this study provides a systematic mapping of how these various theories and constructs complement each other in explaining digital banking customer loyalty and confirms that loyalty is a multidimensional phenomenon shaped by the interaction among rational evaluation, emotional experience, and user satisfaction. Thus, the results of this review enrich the scientific field of digital banking by providing a more integrated conceptual foundation and opening opportunities for the development of empirical models that simultaneously link technology acceptance, hedonic-utilitarian motives, customer satisfaction, and customer loyalty in future research.

RQ2: How has customer loyalty been conceptualized and measured in digital banking research?

The results of the systematic literature review show that the conceptualization of customer loyalty in digital banking research is evolving and reflects a shift from the mere use of technology to the formation of long-term relationships between customers and service providers. Although the term customer loyalty is often used as the end goal in various research

models, the literature reviewed shows that operational definitions remain highly diverse and are influenced by each researcher's theoretical foundations. Baabdullah et al. (2019), Le (2021), Mbama & Ezepue (2018), Bapat (2017), Malik et al. (2025), Berriche et al. (2026), Nguyen et al. (2026), Ogunmola et al. (2026), and Saibaba (2025) tend to interpret loyalty as a customer's commitment to maintain relationships with service providers and continue to choose the same digital platform in the long term. In contrast, research departing from the perspective of technology acceptance more often uses behavioral indicators such as behavioral intention, adoption, or continuance intention as representations of loyalty, as seen in Rodrigues et al. (2017), Gbadebo Salimon et al. (2020), Chanda et al. (2024), Mousa et al. (2021), and Kimiagari & Baei (2021). These differences show that loyalty is not yet uniformly understood, but rather positioned on a broad spectrum ranging from reuse intent to deep relational attachment. Thus, the main pattern that emerges from the literature is that the conceptualization of loyalty is moving from simple behavioral indicators to more multidimensional constructs. However, the transition process is still ongoing and has not yet resulted in a standard conceptualization. These findings confirm that the development of digital banking research is not only marked by technological innovation but also by the evolution in how researchers view the relationship between customers and digital services.

If compared further, there is a tendency for studies that use the Technology Acceptance Model (TAM), extended TAM, or the UTAUT paradigm to emphasize loyalty through measures oriented towards technology use rather than relational relationships. Rodrigues et al. (2017) measured service success through intention to use, influenced by gamification and perceived ease of use, while Gbadebo Salimon et al. (2020) assessed e-banking adoption as the main outcome arising from the interaction among perceived usefulness, perceived ease of use, and e-trust. Chanda et al. (2024) focused their model on attitudes towards e-banking and its adoption in the midst of a pandemic, while Mousa et al. (2021) considered the acceptance of technology with quality of services and digital infrastructure, which sets the bank's reputation. Laradi et al. (2023) and Kimiagari & Baei (2021) also use actual usage as important indicators in evaluating the success of digital banking implementation. The approach suggests that many studies still view loyalty as a logical consequence of successful technology adoption, so the measures used are closer to sustainability of use than long-term commitments. Although the measurement strategy is in accordance with the technology acceptance framework, this approach does not fully capture the affective and relational dimensions that are at the core of customer loyalty. Therefore, the results of this SLR show that the dominance of the technology adoption paradigm is one of the main reasons for the emergence of variations in the conceptualization of loyalty in the digital banking literature.

Di sisi lain, sejumlah penelitian memperlihatkan perkembangan menuju pemahaman loyalitas yang lebih komprehensif dengan menekankan dimensi psikologis dan afektif pelanggan. Chetoui et al. (2023), Karjaluto et al. (2019), dan Arcand et al. (2017) menggunakan konsep *attitudinal loyalty* untuk menggambarkan loyalitas sebagai sikap positif, komitmen psikologis, dan preferensi afektif terhadap layanan mobile banking. Sementara itu, Bhatnagr et al. (2024) serta Bhatnagr & Rajesh (2025) mengembangkan konsep *e-loyalty* yang menekankan keterikatan pelanggan dalam lingkungan digital sebagai hasil interaksi berulang dengan platform berbasis teknologi. Tran et al. (2026) bahkan memperluas perspektif tersebut melalui konsep *brand love*, yaitu keterikatan emosional yang kuat terhadap aplikasi atau merek

digital setelah pelanggan memperoleh pengalaman positif selama penggunaan. Dibandingkan dengan penelitian yang hanya menggunakan indikator niat menggunakan kembali, pendekatan-pendekatan tersebut memperlihatkan bahwa loyalitas juga mencakup dimensi emosional, identifikasi dengan merek, dan preferensi jangka panjang yang tidak dapat direduksi menjadi perilaku penggunaan semata. Dengan demikian, literatur menunjukkan adanya pergeseran dari orientasi yang hanya berfokus pada tindakan menuju pemahaman bahwa loyalitas juga merupakan bentuk hubungan psikologis antara pelanggan dan penyedia layanan. Pergeseran konseptual ini penting karena memberikan gambaran yang lebih realistis mengenai bagaimana pelanggan mempertahankan interaksi dengan digital banking di tengah meningkatnya pilihan layanan dan kompetisi industri.

The synthesis also shows that many studies use continuance intention, continuous use intention, continued intention, or retention intention as a proxy for loyalty, especially when the research focuses on the post-adoption phase. Akel & Armağan (2020), Jamshidi et al. (2018), George & Sunny (2022), Ogedengbe & Abdul-Talib (2020), Sleiman et al. (2022), Kelly (2024), Naeem et al. (2026), Phung & Vo (2025), Sreelakshmi & Prathap (2023), Sharma & Mishra (2023), Maduku & Thusi (2023), and Bhatnagr & Rajesh (2025) used the intention of continuing use as key indicators to describe the success of retaining customers. This decision is based on the premise that customers who intend to continue using the service are likely to maintain a good relationship with the service provider. However, the results of the synthesis show that continuance intention is more appropriately seen as a manifestation of loyalty than as the definition of loyalty itself, because the indicator only captures the behavioral intention dimension and does not necessarily reflect emotional commitment or the tendency to recommend services to others. This difference becomes even more pronounced when compared with studies that use attitudinal loyalty or brand love, which explicitly measure customers' affective aspects. Therefore, the use of continuance intention as a substitute for loyalty provides ease of operation but also has the potential to simplify the complexity of customer relationships with digital services. These findings suggest that the literature still faces challenges in distinguishing between behavioral retention and relational loyalty.

In addition, the results of the review show that loyalty is measured not only by reuse but also by customers' tendency to become advocates for digital services. Berriche et al. (2026), Phung & Vo (2025), Bhatnagr et al. (2024), Çera et al. (2020), and Bhatnagr & Rajesh (2025) operationalize loyalty through word-of-mouth intention, recommendation intention, or customer advice, which is a customer's willingness to recommend a service to others based on their positive experiences. This approach broadens the meaning of loyalty because customers not only maintain usage but also voluntarily help spread the service provider's positive reputation. From a relational marketing perspective, this kind of advocacy behavior indicates a higher level of engagement than mere repeat use, as it involves an element of trust and belief in the quality of service. These results are also consistent with research that identifies customer satisfaction as an important factor in building long-term relationships, as satisfied customers are more likely to recommend others. Thus, measuring loyalty through the advocacy dimension provides a more comprehensive perspective on the impact of digital service efficacy than indicators that only reflect usage. This synthesis confirms that the concept of loyalty in digital banking is increasingly evolving towards an understanding that includes customer behavior, attitudes, and social influences simultaneously.

Overall, the answer to Research Question 2 is that customer loyalty in digital banking research lacks a single conceptualization. It is measured through various approaches that reflect the theoretical orientation and research objectives of each study. Some studies define loyalty as a long-term commitment and relationship with a service provider; some use attitudinal loyalty or e-loyalty to capture the psychological dimension of customers; and most others use continuance intention, behavioral intention, actual usage, or adoption as indicators of behavior assumed to represent loyalty. In addition, several studies have expanded the measurement of loyalty to include word-of-mouth intention, recommendation intention, and brand love, showing that loyalty also encompasses customers' willingness to serve as service advocates and to build emotional attachment to digital platforms. The significance of these findings lies in revealing that the conceptual and operational heterogeneity of loyalty remains a major challenge in the development of digital banking theory, as differences in definitions can affect the interpretation of results and make it difficult to compare studies. From a scientific contribution perspective, this study provides a systematic mapping of the evolution of the concept of loyalty in the digital banking literature. It highlights the need for a more integrated conceptual framework to distinguish among behavioral loyalty, attitude loyalty, digital loyalty, and customer advocacy. By synthesizing research on how loyalty is conceptualized and measured, this study provides a stronger foundation for developing future empirical models that more fully capture the complexity of the relationship between customers and digital services and improve research consistency in the field of digital banking.

RQ3: How have technology acceptance factors, particularly perceived ease of use and perceived usefulness, been linked to customer satisfaction and customer loyalty?

PEOU dan PU telah berevolusi dari sekadar penentu adopsi teknologi menjadi faktor strategis yang membentuk kepuasan dan loyalitas. PEOU mengurangi hambatan kognitif dan operasional sehingga memfasilitasi evaluasi positif, sementara PU memperkuat persepsi manfaat praktis layanan. Keduanya saling melengkapi dan sering beroperasi melalui kepuasan pelanggan sebagai mekanisme mediasi sebelum membentuk loyalitas. Hubungan ini menguat ketika diintegrasikan dengan variabel tambahan seperti trust, kualitas layanan, dan motif hedonis. Temuan menunjukkan bahwa keberhasilan digital banking tidak hanya diukur dari tingkat adopsi, tetapi juga kemampuan menciptakan pengalaman yang mudah, bermanfaat, dan memuaskan.

RQ4: How have hedonic and utilitarian motives been examined in relation to customer satisfaction and customer loyalty in digital banking?

Utilitarian motives show a more consistent relationship with satisfaction and loyalty because they are directly linked to the efficiency and practical benefits of banking services. Hedonic motives also have a positive effect, but the results are more variable and sensitive to the empirical context—some studies even report negative or insignificant effects. The most important finding is that a growing number of studies integrate both dimensions simultaneously, providing a more comprehensive explanation of customer behavior. This marks a paradigm shift from a technology-driven approach to a more holistic customer experience approach.

RQ5: How has customer satisfaction been positioned in digital banking loyalty models?

Customer satisfaction occupies three different positions in the literature: as a mediator (connecting technology benefits with loyalty), as a direct predictor of loyalty, and as an outcome of technology use experiences. The most dominant position is as a mediator — customers are

not automatically loyal just because technology is easy or useful, but because the experience first produces satisfaction. However, a number of TAM-based studies do not even include satisfaction in their models, thereby limiting the ability to explain loyalty dynamics comprehensively.

Implications and Limitations

Theoretically, digital banking loyalty research needs to move from a technology acceptance paradigm towards an integrative approach that combines technology, relationship marketing and consumer behavior perspectives. Practically, financial institutions must integrate utilitarian and hedonic dimensions in service design, and make customer satisfaction a strategic performance indicator. The main limitations include the heterogeneity of construct definitions and measurements, the predominance of cross-sectional designs, variations in geographic-cultural contexts, as well as the lack of representation of newer digital services such as digital-only banking and AI-based services.

CONCLUSION

This systematic literature review concludes that customer loyalty in digital banking is shaped by the interaction among technology acceptance, hedonic–utilitarian motives, and customer satisfaction. The synthesis of 43 selected studies shows that perceived ease of use and perceived usefulness remain central factors in encouraging digital banking adoption; however, they are insufficient to fully explain long-term loyalty. Loyalty develops when customers perceive digital banking services as easy to use, useful, efficient, enjoyable, trustworthy, and satisfying. Utilitarian motives, such as convenience, speed, service efficiency, and functional benefits, demonstrate a more consistent contribution to customer satisfaction and loyalty, whereas hedonic motives, including enjoyment, engagement, gamification, and emotional experiences, provide additional value but vary across cultural, economic, and service contexts. Customer satisfaction serves as a crucial evaluative mechanism that links technology acceptance and user experience with continuance intention, attitudinal loyalty, recommendation intention, and long-term commitment. Therefore, customer loyalty in digital banking should not be understood merely as repeated usage or technology adoption, but rather as a multidimensional relationship involving behavioral continuity, emotional attachment, positive evaluations, and customer advocacy.

Future research should develop more integrated empirical models that simultaneously examine perceived ease of use, perceived usefulness, hedonic motives, utilitarian motives, trust, service quality, customer satisfaction, and customer loyalty within a comprehensive framework. Further studies should also distinguish more clearly between continuance intention, behavioral loyalty, attitudinal loyalty, electronic loyalty (e-loyalty), recommendation intention, and brand attachment to ensure that loyalty measurement becomes more consistent and theoretically robust. Because the reviewed studies were predominantly based on cross-sectional quantitative designs, future researchers should employ longitudinal, qualitative, mixed-method, or experimental approaches to better capture how loyalty evolves over time as customers repeatedly interact with digital banking platforms. In addition, future studies should place greater emphasis on digital-only banks, artificial intelligence-based banking services, personalized financial applications, generational differences, and cross-cultural comparisons,

particularly in emerging markets where digital banking adoption continues to expand rapidly. These directions will contribute to strengthening the theoretical development of digital banking loyalty and provide practical insights for financial institutions seeking to design services that are not only easy to use but also meaningful, satisfying, and capable of sustaining long-term customer relationships.

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