Consumers' Willingness to Adopt Digital Banking

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Even though the literature implies that customers and banking organizations can profit from digital banking in various ways, client adoption of this service is still low, especially in emerging and developing nations. Consumers' openness to digital services limits their willingness to adopt digital banking, especially mobile banking services.

Keywords: fintech ; bank digitalization ; digital services ; financial services ; electronic wallet ; cash ; internet banking ; cryptocurrencies

1. Introduction

With recent developments in technology, the COVID-19 pandemic, and the broad utilization of smartphones, researchers observe an increased interest among banks in upgrading their infrastructures in order to move part of their products and services online (to digitalize). At the same time, financial products sold by fintech companies are gaining more popularity around the world.

According to Leong 2018 [1], researchers define fintech as a cross-disciplinary subject that combines finance, technology management, and innovation management. Moreover, in order to discuss how fintech creates value for businesses, researchers summarized various fintech applications into four major categories: (i) payment, (ii) advisory service, (iii) financing, and (iv) compliance. The definition can further be elaborated as "any innovative ideas that improve financial service processes by proposing technology solutions according to different business situations, while the ideas could also lead to new business models or even new businesses". As a subtopic within payment, blockchain has widely been studied, and many relevant techniques and applications have been proposed by different scholars. Because of the innovation and technology disruption of financial services by nonfinancial enterprises, with the help of fintech, customers can participate in a variety of mobile environment services—e.g., online payment, funds transfer, loan application, purchase of insurance policies, management of organizational assets and management, stock investment, mobile payment, P2P lending, crowdfunding, and cryptocurrency [2].

Digital transformation involves organizations or countries adopting new digital technologies, including disruptive innovations like social media, mobile, big data, cloud computing, IoT, AI, fintech, blockchain, virtual reality, and augmented reality, to enhance their performance significantly. This process requires a well-defined strategy, an appropriate organizational structure, digital capabilities, a supportive culture, and effective governance [3]. The widespread use of digital technologies in banking operations and services, incorporating various digital tools such as computers, computer networks, digital communication, the internet, and information and communication technologies with suitable software, results in heightened speed, security, and efficiency, offering numerous benefits to both banks and their clients; additionally, there is a proposed method for effectively transitioning a traditional financial data bank into a digital counterpart using a typical commercial/retail bank as an example [4]. Analyzing the digitization of banks requires taking a view that is centered on changing the way that this industry currently manages, including new worldviews that have arisen in the digital era in addition to management practices, technologies, processes, and tools [5].

An analysis of several applications, such as payments, advisory services, financing, and compliance, provides even more context for the fintech scene. As in previous studies on digitalization in banking operations, the research addresses the growing interest in digital transformation within the banking sector and emphasizes the need for a well-defined strategy, organizational structure, and digital capabilities to enhance performance [3][4][5].

2. The Concepts of Trust and Distrust in the Context of Financial Institutions

The concepts of trust and distrust in the context of financial institutions create a critical duality in the landscape of internet banking [6]. Trust is in direct opposition to the fears associated with mistrust, embodying potential concerns [7]. Trust refers

to the confidence in the system generated by these organizations. The adoption of online banking is the result of a complex decision-making process that is influenced by several variables, including the desire for change, level of trust, educational background, and others [8]. According to Chou and Chou [9], online banking has five main purposes: keeping track of account balances, viewing transaction history, paying bills, moving money between accounts, and accessing credit card advances or ordering checks.

Technical factors that influence user perception and adoption behavior include internet speed and the security of the online banking infrastructure [9]. According to technology acceptance theory, factors such as enjoyment and flow are crucial in illuminating a given person's technological experiences. An analysis of factors influencing e-commerce adoption shows that external pressures, perceived benefits, and readiness are the most important factors [10]. Interestingly, despite significant investment in new information technologies, the United States has often ignored the fundamental elements of technology adoption, such as planned change, internalization, trust, and the dynamics of adoption. Interestingly, innovators, who typically exhibit characteristics such as high wealth, education, active social participation, and leadership, are often the first to adopt new services or goods, such as internet banking [11]. The perception of potential benefits, which significantly influences the acceptance of service, is an important consideration in individual decision making about technology adoption [12]. Aside from personal preferences, factors such as consumer demand, market competition, technology accessibility, and overall market forces influence the adoption of online banking services among banks [13].

Montazemi and Qahri-Saremi [14] used a grounded theory approach for their literature review and the two-stage random effects MASEM procedure for their research; they identified the factors that influence the preadoption and postadoption of online banking. A study on the adoption of internet banking in China also found that security was the most important determinant of user adoption, with perceived ease of use and privacy policies also having a major influence [15]. Another study, conducted between 2003 and 2006 in the United States among a panel of commercial banks, examined the factors that led banks to use transactional websites (the precursor to online banking) for their customers. This research showed that, while the characteristics of individual banks (such as reputation and public trust) play a role, the banking sector is the area that the bank should primarily focus on, and competition is a crucial factor to consider [16].

Numerous advantages that internet banking offers over traditional banking have been identified through extensive research across the field. The most prominent of these is the extreme convenience of online banking, which provides users with constant access to their accounts and allows for transactions to be made from anywhere [17]. The trend towards internet banking, which not only reduces the need for physical bank branches but also benefits both financial institutions and customers, has been actively promoted by banks in the United States [18]. Online banking is attractive because it allows for 24-hour payment processing from the comfort of one's own home, eliminating the need to visit a physical branch [19].

However, some people are reluctant to use internet banking because they do not trust it. A market study conducted by Salus and Weeks shows that the lack of human interaction can be perceived as a problem; in its absence, customers are lacking the trust they experience when visiting a bank branch, as this trust is absent in interactions within online banking applications [20].

In addition, research that considers cultural factors, such as the framework presented by Hofstede [21], has shown the importance of collectivism and the insignificance of other factors in predicting behavioral intentions and online banking usage patterns [22]. The effectiveness and acceptability of retail online banking has been studied, and criteria such as accuracy, security, network speed, ease of use and convenience have been shown to be important factors in perceived effectiveness [23].

Comparative studies comparing the adoption of digital banking in the United States and other growing economies, such as Russia and China, show that the US banking system has a clear lead in this area [24]. Economic value, ease of use, social influence, company reputation, features, and rewards all have significant impacts on customers' desire to use e-banking services exclusively; such findings have been reported by studies with generations Y and Z in Indonesia [25].

Zagalaz Jiménez and Aguiar Dáz [26] examine the relationship between parameters such as income and employment status and the use of internet banking in Spain. They find interesting correlations with these variables. Similarly, Szopiski [27] uses econometric studies to identify critical factors that influence the use of internet banking, such as access to the internet, trust in banks, and the availability of new financial products.

Ramayah [28] used discriminant analysis to examine survey data from Malaysian bank customers to find out which characteristics are most likely to influence the acceptance of e-banking. Vinayek and Jindal [29] use discriminant analysis to identify the factors that influence Indian customers' preferences for internet banking services. Lawson and Todd [30]

analyze data from New Zealand using exploratory factor analysis to identify the stimuli that influence preferences for particular payment systems and to assess the influence of demographic and socioeconomic factors.

One study examines whether the adoption of digital payment methods, such as mobile payments, increases risks of financial vulnerability. It examines this relationship beyond the US, exploring the willingness among populations to use social media companies for money transfers and to share account information with third-party financial services, based on data from a Norwegian adult population sample (n = 2202) [31]. In contrast to findings from research in the US, mobile payment users were found to be less financially vulnerable than nonusers, with women being more willing to use digital payment technologies than men. Financial vulnerability was more pronounced among younger generations and those with less financial education but was not directly related to mobile payments or other digital payment methods.

Another study used planned behavior to examine how new technologies are adopted. A total of 118 employees participated in this research over a five-month period to determine how and the extent to which age influences the adoption of new technologies [32].

Defining the fintech framework, including the most appropriate business models for each country, proves to be the central dilemma of most studies in this area and is a mandatory step in creating regulations that can keep up with technological advances. Cybersecurity and information infrastructure must be constantly improved to support the large amount of data, some of which is personal in nature, used in fintech businesses. Interesting technologies such as robot advisors, big data, and AI can be supported by developments in the internet and smartphones [33].

According to a study conducted in Malaysia, published in an article by Rahim et al. [34], fintech contributes to financial inclusion by providing unbanked and underbanked consumers—especially low-income households and minority groups—with access to affordable and convenient financing to improve their economic opportunities. Fintech services reduce costs, improve the quality of financial services, increase employment rates, reduce poverty through lower transaction costs; this facilitates everyday personal and professional life to thrive and provides financial access through microfinance and crowdfunding.

Digital literacy and consumer skills can also be improved through technology in financial services. Fintech services reduce energy consumption (e.g., fuel) and increase environmental protection (e.g., carbon emissions). Although the concept is sound, these benefits may not, in reality, be realized, as the adoption of fintech services is low. Fintech is associated with cyber-related risks, which can be broadly categorized into loss of privacy, compromised data security, increasing financial losses due to fraud and scam, unclear legal status, lack of regulation, and the risk that fintech providers lack operational efficiency. Driven by financial technology (the origin of the term “fintech”), such as blockchain, big data, machine learning, and artificial intelligence (AI), fintech has enabled consumers to conduct financial transactions without the physical presence of people, money, or infrastructure. Fintech and its associated technologies provide digital solutions for affected individuals, businesses, and governments. At the height of the COVID-19 pandemic, governments’ measures to contain physical movement and promote safe physical contact led to a massive adoption of fintech.

According to an Ernst and Young study [35]—“Global FinTech Adoption Index 2019”—the proportion of users utilizing fintech services, expressed as a percentage of the digitally active population for 27 selected countries, was 64% in 2019. It is worth noting that this figure is 87% for China, 71% for the UK, 64% for Switzerland, and 46% for the US. As shown by the results of the survey conducted by Capgemini and Efma [36], covering six regions of the world, millennials (people born between 1980 and 1995—as an age category, these people are presently 27–42 years old) are more likely than other generations to use the services offered by fintech. In the study, the 28–43 age category received the most responses, and researchers also find that this age category has the greatest interest in using smartwatches. In the study, the high-income categories also have the greatest interest in adopting fintech services.

For example, it can be seen that, in Western Europe, the adoption of fintech among Millennials is 65.6%, while in the other age groups it is 53.2%. In Central Europe, the difference between the acceptance of fintech among members of the millennial generation and the other generations was slightly lower at 9.5% (the corresponding figures were 72.6% and 63.1%, respectively). According to the results of the Ernst and Young report [37], the fintech adoption index for the millennial generation is 48% worldwide and 59% in the US. In Poland, this ratio was around 75% for the millennial generation in 2019 [38].

Das and Das [39] pointed out that 66.6% and 62.3% of people in the 18–28 and 29–39 age groups were regular users of fintech services, respectively, compared to only 26.9% in the over-50 age category. Similarly, Li et al. [40] found that younger consumers are more likely to use mobile payments than older consumers—the predicted probability of an adult aged 20 using mobile payments is almost 10 times greater than of an adult aged 75.

Gender is another demographic determinant that influences the adoption of new technologies. Research shows that men are more likely to adopt a new technology than women [39][40][41][42]. An interesting study on age was also conducted by Carlin et al. [43]. The authors investigated gender differences in technology adoption by analyzing a broader context, i.e., they examined the answer to the following question: how does better access to financial information through new technologies change consumer credit use and influence financial fitness? The results of the research show that men tend to be more inclined to adopt new technologies and access information to a greater extent than women; however, the economic impact of access is greater for women—each additional login to a smartphone application reduced bank fees by SEK 238.1 (USD 1.98) for women and by SEK 195.2 (USD 1.63) for men.

The research conducted by Rogers [44] in the context of technology adoption shows that early adopters may adopt a given innovation based on their higher level of education. This relationship was also analyzed by Szopiński [27], who proved that the level of education of respondents positively influences the use of online banking. Similarly, only a few of the studies conducted prove the influence of income level on the acceptance of technological innovations. The study conducted by Flavián et al. [41] on the influence of income on the use of online banking shows that this factor has a significant influence on the acceptance of online banking services (a person with an annual income of more than EUR 36,000 was more likely to make transactions over the internet than someone with an income between EUR 24,000 and EUR 36,000 per year).

The likelihood of using innovative services offered by fintech decreases with age. Men are more likely to use innovative fintech services than women. The likelihood of using innovative fintech services increases with the level of education. The likelihood of using innovative level services increases with monthly net income.

Ryu [2] identified convenience as a factor related to portability and instant accessibility, offering consumers flexibility in terms of time and location. The author demonstrated that convenience has a positive effect on fintech adoption. The results of the research are consistent with this research and show that the more important factor is a person's ability to use a smartwatch; when choosing a financial institution, the more likely a millennial is to use a smartwatch, the more likely they were to use innovative fintech services. Demographic variables that have a statistically significant impact on millennials' use of innovative fintech services include age and gender. The results are consistent with those of other authors, such as Carlin et al. [43], Das and Das [39], Li et al. [40], and Liébana-Cabanillas et al. [45]. These two hypotheses have been clearly confirmed. The first is "the likelihood of using innovative services offered by fintech decreases with age". In their case, the probability of using innovative services offered by fintech decreases by 5.7% when the age of a respondent increases by one year. While the probability of a 25-year-old person using fintech is 64%, it is only around 53% for a 15-year-old person. Younger people are therefore more open to modern technologies. As Hanna and Kim [41] argue, it is possible that older generations are more anxious when trying to learn how to use mobile payments, which is associated with a lower perceived ease of use. In terms of gender, the research proves that men are more likely to use innovative services offered by fintech than women.

Accounting for age, gender, income, and education level, this research expands our knowledge of fintech adoption. This initiative builds on the findings of previous research that younger, better educated, and wealthier people are more likely to adopt innovative fintech services. The research findings have implications for financial institutions looking to tailor their offering to specific customer segments in the dynamic market for digital financial services [3][39][44][45].

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