# Customer Behavior in the EU's Retail Banking Markets: Evidence from Portugal*

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## ABSTRACT

The digital revolution has fundamentally transformed the banking sector, reshaping customer interactions and intensifying competitive dynamics across economic landscapes. This research investigates customer satisfaction, trust, and loyalty in the Portuguese banking market through a comprehensive longitudinal study spanning four critical years: 2013, 2019, and 2023. The study reveals customer trust as a determinant of satisfaction and loyalty while simultaneously highlighting a significant decline in trust in the banking sector. This erosion can be attributed to two primary factors: the lasting impact of the 2008 global economic crisis and the ongoing transition to digital banking platforms. As banks progressively replace traditional face-to-face services with digital interfaces, customer satisfaction and loyalty have experienced a notable downturn. The research demonstrates that technological advancements, while offering increased efficiency, simultaneously risk undermining the fundamental interpersonal relationships that historically characterized banking experiences. The Portuguese banking landscape presents a critical case study of these broader transformative challenges. Intensified competition and diminishing customer trust demand proactive strategic responses. The findings underscore the imperative for banks to reimagine their customer interaction strategies. Success in the digital age requires a delicate balance between technological innovation and maintaining genuine human connections. Banks must invest in creating digital experiences that are not merely transactional but deeply responsive to customer needs and expectations. This research contributes to understanding the complex dynamics of digital transformation in banking, highlighting the critical importance of trust as a strategic asset in an increasingly competitive and technology-driven financial environment.

**Keywords:** Digital Banking, Portuguese Bank, Satisfaction, Trust, Loyalty, Digital Economy.
**JEL Codes:** M31

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## I. Introduction

IN THE AFTERMATH of the collapse of the Bretton Woods fixed exchange rate mechanism, the onset of the 1972 oil crisis, the 1980s distress in banking sectors around the world, and prior to the international of the 1988 Basel Accord, the top 10 ranking of the world's largest banks by total assets was as follows:

**Table 1: The top 10 ranking of the world's largest banks by total assets.**

| Country | 1970 | 1980 | 1990 |
|---|---|---|---|
| United States of America | 5 | 2 | 0 |
| United Kingdom | 2 | 2 | 0 |
| Canada | 2 | 0 | 0 |
| Italy | 1 | 0 | 0 |
| France | 0 | 4 | 3 |
| Germany | 0 | 1 | 0 |
| Japan | 0 | 1 | 7 |

Since then, global waves of market integration, transformative disruptive technologies, deregulation / reregulation, and shocks of a different natur have made banking markets and institutions bigger, more interconnected, and more complex (e.g., Berger *et al.*, 2010; Gual, 2009).

At the European Union (EU) level, the "Banking Union's" long and winding road and, more recently, the EU's Digital Markets Act have been driving significant transformation to the conduct, structure, and performance of the EU's banking industry (Goddard et al., 2019).

In a performance assessment of the global banking industry after the 2007-2009 global financial shock in terms of profitability, capital, and liquidity, it was found that "through a combination of smart moves on three structural dimensions (selecting segments carefully, finding scale where it can matter, and strategically locating themselves, whether geographically or in the value chain) and rigorous operational execution across a range of capabilities" (Mehta et al., 2024, p. 2).[1]

More recently, incumbent banks' legacy business models of incumbent banks have been experiencing some competitive stress caused by the threat of 'new kids on the block', such as the shadow banks (e.g., Boot & Thakor, 2010; Górnicka, 2016), and the technology-based financial services providers dubbed as 'fintech' (e.g., Cevik, 2024; Frame et al., 2018). Thus, established banks faced the challenge of committing to reengineering their mainstream business models, namely because the traditional "model of universal retail banking is unsustainable in the digital world" (Adarkar et al., 2022, p. 1), levering the drivers of customer loyalty in a highly competitive market environment,

[1] That performance enhancement has been relatively lackluster in terms of value creation, influenced by the transmission of the recent impulses of the interest rates policies of the major monetary authorities.

aiming at optimally sustaining growth and performance (e.g., Berger et al., 2010; Goddard et al., 2019; Tressel, 2014).

To respond to the shifts in consumer demand, Khon *el al.* (2022, p. 2) report that "in developed markets, banks closed 9 percent of their branches in 2021", and intensified the rate of transition to digital banking channels, in response to a "customer willingness to consider digital channels exceeding 70 percent in every geographic region and age category" (ib.: 5).[2]

Portugal, naturally, was not exempted from the effects of these transformation effects, which have been driving supply and demand side banking markets to readjust their structure and conduct (e.g., Altunbas et al., 1999; Borges, 1993; Coutinho dos Santos, 2021; Kleimeier & Sander, 2007, 2022; Omarini, 2022; Quaglia, 2019).

For example, during the 2013-2023 period, the banks affiliated with the Portuguese Banking Association (Associação Portuguesa de Bancos - APB), reduced the number of branches and the head-count by 40.3% and 15.7%, respectively (see Table 2).

**Table 2: Banks, branches and head counting.**

| | 2013 | 2019 | 2023 | Change (%) |
|---|---|---|---|---|
| Number of banks | 30 | 28 | 29 | -3.3% |
| Number of branches | 5,570 | 4,029 | 3,327 | -40.3% |
| Head-counting | 52,524 | 46,444 | 44,294 | -15.7% |
| Branchs per bank | 185.7 | 143.9 | 114,7 | -38.2% |
| Head-counting per branch | 9,4 | 11,5 | 13,3 | 41.2% |

Source: https://www.apb.pt/pt/publicacoes/estatisticas

During the sample period, the number of branches per bank decreased by 38.2% and the head-counting per branch rose by 41.2%. This evidence is consistent with the view that banks may have reinforced the head-counting at the branch level to compensate for the reduction in the granularity of the branches network, associated with the digital transition of retail banking (Bravo et al., 2019).

Despite its relevance, the role of the different dimensions of consumer behavior concerning retail banking on the ongoing transformative process in retail banking markets, it appears that the topic has been relatively underresearched, particularly in Portugal. To the best of our knowledge, Henrique and Matos (2015), and Loureiro *et al.* (2014), are some of the few recent exceptions.

The main purpose of this paper is two-fold. On the one hand, it describes the attitudinal and behaviorial characteristics of retail banking customers who participated in the 2013, 2019 and 2023 surveys. On the other hand, it examines the stated preferences of the survey participants' on a set of satisfaction, trust, and loyalty determinants in relation to retail banking experiences.

The remainder of the paper is organized as follows: Section 2 parsimoniously reviews the literature and formulates paper' specific research questions for this paper. The following section describes the research design, the data, and the empirical

[2] The sample includes banks from 21 countries: Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Hong Kong, Iceland, Ireland, Italy, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Taiwan, the United Kingdom, and the United States (Khon *et al.*, 2022: footnote #1).

methodological approach. Section 4 presents and discusses the results. A summary of the findings concludes the paper.

## II. Literature Review and Research Questions

Over the last three decades, EU retail banking, has been exposed to increasingly competitive and volatile global business environments, more sophisticated consumer needs and expectations, and transformative shocks, specifically, associated with the construction of the Single Market, the unfolding European banking union, and more recent, the EU's Digital Markets Act.

Combined, those shocks catalyzed a transformative wave of change in the traditional “brick & mortar” retail banking business model. In this section, we review the literature across the drivers of change suggested in Omarini (Omarini, 2023, p. 76): “technology, regulation, new competitors, consumer attitudes and behaviors”.

### *Technology*

As posited by Pousttchi and Dehnert (2018), "retail banking has undergone a massive transformation in the last few years. A major aspect is changing consumer behavior". Underlying those market and consumer behavior dynamic shifts, are the Ripple effects of the massive deployment of disruptive digital and social media communication technologies, which enabled the launch of innovative marketing strategies to cater for increasingly empowered and tech-savvy customers (Frandsen & Nicolaisen, 2013; Mainardes et al., 2020; Stephen, 2016).

In 1994, Bill Gates warned that “banking is necessary, banks are not” (Sotubo, 2020). That statement revealed itself premonitory of the challenges embedded in the technological transformation underway in the European banking, and of its implications at the strategic, organizational, operating, and performance level (e.g., Adarkar et al., 2022; Dibb & Meadows, 2001; Heckel & Waldenberger, 2022; Omarini, 2022; Svatoš, 2021; Valsamidis et al., 2020).

Among the most relevant back- and front-office digital transformations, are included, the “new internal systems, such as customer relationship management and business management technologies, core processing technologies, and various support and integration technologies" (Berger et al., 2010, pp. 829-830), instrumental for customers’ access to omnichannel retail banking services (e.g., Harris & Wonglimpiyarat, 2023).

“Digital transformation is in the banking industry developing at its own speed. The banking industry is in its nature very conservative industry and the application of new technologies is relatively slow. Trust and reliability are very important factors in this.” (Svatoš, 2021, p. 367).

### *Market Structure and Regulation*

Driven by rapid deployment of disruptive fintech digital innovations, such as mobile banking, artificial intelligence, Internet of Things (IoT), and blockchain, the provision of bank products and financial services has been experiencing a significant wave of reengineering (Stulz, 2022; Walker et al., 2023). Consequently, as postulated by Dibb and Meadows (2001, p. 169), "the boundaries between major players in the retail banking industry are becoming increasingly blurred", and the "traditional definitions of banks, and financial services become obsolete" (Omarini, 2023, p. 106).

For example, Eriksson *et al.* (2020, p. 889) argue that "new FinTech companies compete successfully with incumbent banks in non-advisory financial services, such as payments and transaction accounts", challenging early bank-customer relationship marketing strategies, aiming at continuing to attract and retain customers (see also Vater et al., 2012).

Moreover, the rapid deployment of digital technologies and devices has induced significant changes in consumer behavior. It is against this backdrop that this paper aims to understand how the developments in digital technology are re-shaping the process and the strategy of marketing, and the implications of this transformation for research in the broad space we call "digital marketing" (Kannan & Li, 2017, p. 22).

### *Consumer Attitudes and Behavior*

Consumer behavior has traditionally been approached under the rational choice of the risk and uncertainty theoretical framework (see, e.g., Angner, 2016). More recently, has been increasingly articulated within the behavioral economics paradigm (e.g., Zandstra et al., 2013).

Against this backdrop, banks have been replacing physical with digital distribution channels, aiming at accommodating both changes in consumer behavior and the widespread adoption of digital technological surges in front- and back-office systems, pursuing bank's brand equity enhancement through customer relationship management (Berger et al., 2010; Kannan & Li, 2017; Rizzi & Taraporevala, 2019; Ulrich-Diener et al., 2023; Yoganathan et al., 2015).

However, because of the fiduciary specificities of the contractual relationship between banks and their customers, digital transformation in retail banking tends to progress at a slower pace than in other business-to-consumer e-commerce platforms, to avoid putting customers' trust and loyalty at risk (e.g., Glover, 1995; Svatoš, 2021).

It is well-acknowledged in scholarship research that customer satisfaction and loyalty, are key drivers of retail banking competitiveness, growth, and profitability (e.g., Kim et al., 2024; van Deventer & Redda, 2021).

With the advent of the bifurcation in retail banking distribution into offline and online channels, towards an omnichannel distribution structure, that the consumer behavior in digital environments may diverge from the physical (e.g., Chen et al., 2018). Moreover, as suggested by Hamouda (2019), consumer behavior in retail banking multichannel distribution structures may behave differently across the available channels.

Retail banks, although acquiescing the interdependencies across channels, may approach the customers of each channel with specific relationship marketing strategies, aiming at promoting "coordination and synergy across all channels" (Hamouda, 2019, p. 609; see also Iglesias-Pradas et al. 2022).

### *Satisfaction, Trust, and Loyalty*

In the retailing industry at large, "a loyal customer base is central to the profitability and growth of a business. This is because such customers are great sources of cash flow and spread positive word-of-mouth marketing communication" (van Deventer & Redda, 2021, p. 135).

However, as argued by Harris and Goode (2004, p. 139), under a multichannel distribution structure, "generating loyal customers online is both more difficult and more important than in offline retailing." However, "establishing online loyalty is dependent on first generating consumer trust in the procedural rigor and operational abilities of the supplier" (ib.).

It is well-established in scholarly research, that customer satisfaction, trust and loyalty are important drivers of retail banking business sustainable growth and profitability (e.g., Boonlertvanich, 2019; Raza et al., 2020; Stephen, 2016; van Deventer & Redda, 2021). Alternatively, in Hult *et al.*'s (2019) own words, customer satisfaction, trust and loyalty, altogether are the “holy grail” (ib., p. 10) of extant retail banking. These factors are important drivers of a banks' reputation, repeated business intention, word of mouth, and recommendations to new customers.

### *Research Questions*

To better understand the role of customer perceived satisfaction, trust and loyalty in the Portuguese retail banking market, this paper examines the following research questions (RQ):

Survey participants were asked about their willingness to recommend their bank to third parties (RQ3), grounded on the *a priori* that the "word-of-mouth intention contributes to a crucial part in enhancing customer loyalty in the banking sector" (Manyanga et al., 2022, p. 1).

The increased adoption in the most recent decades of multichannel retail banking, and the idiosyncrasies of the local retail banking physical and digital channels, create a research opportunity to understand the factors underlying customer satisfaction, trust, and loyalty perceptions (e.g., Hamouda, 2019; Loureiro et al., 2014; Neslin & Shankar, 2009). To explore the proposition of the importance bank customers assign to having access to human contact for service at a bank branch channel, we formulated (RQ4).

Overdogs in the brick and mortar to digital retail banking transition ought, on the one side of the tradeoff, “be able to shrink their physical footprints, eliminating at least 30% of their branches” (Vater et al., 2012, p. 1). On the other side, should, at least, preserving customer service delivery satisfaction, for example, ‘rightsizing’ branch staffing, while sustaining profitability and competitive advantage (ib.). Liébana-Cabanillas et al. (2013, p. 750) argue that "electronic banking, in particular, is one of the services that offers the greatest advantages to financial customers". (RQ5) studies the stated preferences of bank customer satisfaction in using new technologies to replace human contact in bank branch service. (RQ6) examines stated perceptions of using new technologies to replace human contact in a bank branch.

(RQ7) examines overall customer satisfaction drivers include, such as product / service attributes, intrinsic total quality, and customer complaint handling (e.g., Levesque & McDougall, 1996). However, in current multichannel retail banking, customer satisfaction "with the performance of the traditional service channel interacts with technology-mediated channel performance satisfaction" (van Birgelen et al., 2006, p. 2). Consequently, as argued by Hult et al. (2019, p. 11) "due to the inherent differences in the online and offline channels, customer perceptions and behaviors are likely to be very different when they purchase online versus offline".

As posited by Järvinen (2014, p. 554), "consumer trust in banks and in banking services is based on consumer experience and is dependent on the ability of banks to behave in a reliable way, observe rules and regulations, work well and serve the general interest " (see also, Sharma & Sharma, 2019). Therefore, (RQ1) explores whether trust will increase across years among bank clients.

Harris and Goode (2004, p. 140), conceptualize "loyalty as a consequence of direct and indirect relationships with trust, perceived value, satisfaction, and service quality." However, the mainstream marketing literature unveils a relative heterogeneity in relation to the main determinants of customer loyalty (e.g., Human & Naudé, 2014). One branch of that literature, documents that the most significant determinants of loyalty "are customer satisfaction, and, to a lesser degree, switching costs" (Beerli et al., 2004, p. 256; see also Kim et al., 2024). Kamath *et al.* (2020, p. 456) define customer loyalty in a retail banking environment, as a "function of brand equity–customer satisfaction relationship, which is expected to be associated with customer experience". On their study, Milan *et al.* (2018, p. 3939) hypothesized "perceived value, service provider reputation, bonding tactics (financial, social and structural) and switching costs", as the constructs of determinants of bank customer loyalty.

Customer loyalty, despite being an important driver of banking profitability, is not the only contributing factor. Raza *et al.* (2020, p. 1338) argue that banks' socially responsible behavior may also "create value and long-term relationships with the customers", as this endogeneize social, environmental, and ethically responsible behavior in the decision-making of operations. Loyalty tends to increase over the years among bank clients, provided banks continuously improve service quality (e.g., responsiveness, tangibility), enhance customer experience management across virtual, physical, and service channels and increase customer satisfaction and perceived switching costs (Makudza, 2021; Nguyen & Coca-Stefaniak, 2020). As such, (RQ2) examines if loyalty increases over time amongst bank clients.

Several factors, including service quality, employees responsiveness, service costs, client participation, accessibility, lack of personalization, inadequate communication, technological issues and financial factors, among others, impact differently bank customers' satisfaction (Gupta et al., 2010; Tien et al., 2021). Therefore, we formulate (RQ8): will there be statistically significant differences between factors that most impede customers' banking satisfaction?

The literature suggests bank customers demographic characteristics are associated with their behavior. For example, younger customers may be more inclined to adopt new technologies due to their familiarity with digital tools and platforms. In contrast, older customers might be more hesitant, potentially affecting their trust and loyalty if they feel uncomfortable with new technology, including online service - hence their preference for personal contact (Boonlertvanich, 2019). Also, research often indicates that gender can influence technology adoption, with men generally being more open to adopting new technologies than women. This difference could impact trust levels and, subsequently, customer loyalty, as different genders may have varying experiences and comfort levels with technology (Boonlertvanich, 2019; Glavee-Geo et al., 2017; Riquelme & Rios, 2010). Higher education levels are often associated with greater technology adoption, as educated individuals may have more exposure to and understanding of new technologies. This can lead to increased trust in technological solutions provided by banks, which can enhance customer satisfaction and loyalty (Boonlertvanich, 2019). Consequently, we expect there will be statistical differences between gender, age, and education groups for this study regarding the research items (RQ9, 10, and 11).

## III. Empirical implementation

### *A. Research design and methodology*

A survey was conducted in Portugal based on a questionnaire disseminated online in 2013, 2019, and 2023. The inclusion criteria for the sample consisted only of being 18 years of age or older and a bank customer. All participants were previously informed about the research objectives and assured of anonymity and data confidentiality, accessing the questionnaire only after expressing their consent. The answers were collected and validated, after which they were processed in SPSS 29.0.1.0.

The questionnaire included: a section with sociodemographic items (gender, age group, and education level); a section with questions concerning the customers' relationship with their main bank, namely, the number of years as customers, the main channel of contact (counter/telephone banking and internet/mobile banking), and which factors impeded satisfaction the most; and, finally, a section with items to measure the importance customers attributed to factors such as technology adoption, trust, loyalty, and satisfaction, using a 10-point Likert scale. All variables are listed in Table A1 (Appendix A).

The respondents' sociodemographic profile and relationship with the main bank were first characterized for each year using descriptive indicators (frequencies, percent, and cumulative percent). Item descriptives included frequency, mean, standard deviation, and skewness (Sk), and kurtosis (Kr). Skewness (–3 to +3) and kurtosis (–7 to +7) values were calculated to assess the normality of variable distributions (Kline, 2015).

As we aimed to determine whether there were statistically significant differences concerning all Likert-scaled items, after verifying the normality of data distributions, parametric tests for differences were applied between groups of gender and preferred channel of contact (t-test), age, education level, and years as a customer (One-way ANOVA), and factors that most impeded satisfaction with the main bank the most (Qui-square). The statistical significance level was considered $p < 0.05$.

### *B. Data description*

The characteristics of the samples obtained in 2023 ($N$ = 401), 2019 ($N$ = 387), and 2013 ($N$ = 581) are shown in Table 2. The most common respondents tend to be male, aged between 51 and 65, and have a university degree.

**Table 2: Sample characteristics.**

| Variable | 2023 | | | 2019 | | | 2013 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Frequency | Percent | Cumulative percent | Frequency | Percent | Cumulative percent | Frequency | Percent | Cumulative percent |
| **Gender** | | | | | | | | | |
| Female | 165 | 41.1 | 41.1 | 180 | 46.5 | 46.5 | 294 | 50.6 | 50.6 |
| Male | 236 | 58.9 | 100.0 | 207 | 53.5 | 100.0 | 287 | 49.4 | 100.0 |
| Total | 401 | 100.0 | | 387 | 100.0 | | 581 | 100.0 | |
| **Age group** | | | | | | | | | |
| 18-25 | 34 | 8.5 | 8.5 | 42 | 10.9 | 10.9 | 29 | 5.0 | 5.0 |
| 26-35 | 33 | 8.2 | 16.7 | 51 | 13.2 | 24.0 | 144 | 24.8 | 29.8 |
| 36-50 | 116 | 28.9 | 45.6 | 142 | 36.7 | 60.7 | 284 | 48.9 | 78.7 |
| 51-65 | 177 | 44.1 | 89.8 | 125 | 32.3 | 93.0 | 116 | 20.0 | 98.6 |
| >65 | 41 | 10.2 | 100.0 | 27 | 7.0 | 100.0 | 8 | 1.4 | 100.0 |
| Total | 401 | 100.0 | | 387 | 100.0 | | 581 | 100.0 | |
| **Education** | | | | | | | | | |
| Basic/Secondary | 72 | 18.0 | 18.0 | 75 | 19.4 | 19.4 | 83 | 14.3 | 14.3 |
| Degree | 214 | 53.4 | 71.3 | 172 | 44.4 | 63.8 | 306 | 52.7 | 67.0 |
| Master's degree | 81 | 20.2 | 91.5 | 59 | 15.2 | 79.1 | 103 | 17.7 | 84.7 |
| Doctorate | 34 | 8.5 | 100.0 | 81 | 20.9 | 100.0 | 89 | 15.3 | 100.0 |
| Total | 401 | 100.0 | | 387 | 100.0 | | 581 | 100.0 | |

Table 3 documents the descriptive statistics for the variables related to trust (item 11), loyalty (item 12), satisfaction (item 31), technology adoption (items 21, 22, and 23), willingness to recommend the bank (item 13) and feelings about the future of Portuguese banking (item 24). In 2013, the concept of technology adoption was addressed with just one question (item22). Also, in 2013, it was not asked which factors most impeded the respondent's satisfaction with their bank. All the items have absolute values of asymmetry and kurtosis below 3, so the respective distributions can be assumed to be normal (Kline, 2015). Table 3 also shows the frequencies and percentages associated with the number of years as a customer, the most used channels to communicate with the main bank, and the factors that most impede satisfaction with the main bank the most (the latter for 2023 and 2013 only). Descriptive statistics for the main variables of interest are reported in Table 3.

## IV. Results and Discussion

Trust (*item11*), loyalty (*item12*), and satisfaction (*item31*) in 2013, 2019 and 2023 document mean averages above 7 on a 1 to 10-scale. The mean average for *item13* (willingness to recommend the main bank to others) is also at the same score level. Means are generally lower for *item23* (the importance of having access to human contact for service at bank branches/counters), *item22* (satisfaction change with the use of new technologies to replace human contact in bank branches/counters), *item23* (evolution of the client confidence in the use of new technologies to replace human contact in bank branches/counters), and, notably, even lower for *item24* (confidence in the future of banking in Portugal). However, in 2013, *item22* and *item24* registered mean averages of 8.02±1.83 and 5.44±2.00, respectively, decreasing substantially until 2023.

**Table 3: Variables descriptives.**

*N* = Frequency; *M* = Mean; *SD* = Standard deviation; *Sk* = Skewness; *Kr* = Kurtosis; *F* = Frequency; *%* = Percent; *Cum. %* = Cumulative percent. a) No data available in 2013. Variables are displayed in Appendix A.

| Variable | 2023 (*N* = 401) | | | | 2019 (*N* = 387) | | | | 2013 (*N* = 581) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *Sk* | *Kr* | *M* | *SD* | *Sk* | *Kr* | *M* | *SD* | *Sk* | *Kr* |
| *item11* | 7.56 | 1.98 | -1.06 | 1.08 | 7.30 | 1.78 | -0.81 | 1.13 | 7.44 | 1.83 | -1.01 | 1.19 |
| *item12* | 7.33 | 2.44 | -1.05 | 0.36 | 7.36 | 2.17 | -1.03 | 0.72 | 7.55 | 2.16 | -1.10 | 0.94 |
| *item13* | 7.00 | 2.46 | -0.88 | 0.08 | 6.97 | 2.26 | -0.83 | 0.12 | 7.22 | 2.28 | -0.91 | 0.35 |
| *item21* | 4.24 | 1.07 | -1.26 | 0.59 | 4.22 | 0.97 | -1.07 | 0.46 | | | a) | |
| *item22* | 3.55 | 1.17 | -0.53 | -0.42 | 3.70 | 1.09 | -0.73 | 0.04 | 8.02 | 1.83 | -1.58 | 3.41 |
| *item23* | 3.42 | 1.05 | -0.34 | -0.32 | 3.50 | 1.08 | -0.66 | 0.06 | | | a) | |
| *item24* | 2.91 | 1.08 | -0.18 | -0.52 | 2.87 | 0.99 | -0.15 | -0.37 | 5.44 | 2.00 | -0.31 | -0.19 |
| *item31* | 7.10 | 2.25 | -0.85 | 0.17 | 7.15 | 1.94 | -0.81 | 0.55 | 7.22 | 1.79 | -0.89 | 0.96 |

| Variable | | 2023 (*N* = 401) | | | 2019 (*N* = 387) | | | 2013 (*N* = 581) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *F* | *%* | *Cum.%* | *F* | *%* | *Cum.%* | *F* | *%* | *Cum.%* |
| Number of years as a customer | | | | | | | | | | |
| *bpr* | Less than 1 | 9 | 2.2 | 2.2 | 6 | 1.6 | 1.6 | 6 | 1.0 | 1.0 |
| | 1 to 5 years | 44 | 11.0 | 13.2 | 58 | 15.0 | 16.5 | 77 | 13.3 | 14.3 |
| | 4 to 10 years | 42 | 10.5 | 23.7 | 38 | 9.8 | 26.4 | 96 | 16.5 | 30.8 |
| | More than 10 years | 306 | 76.3 | 100.0 | 285 | 73.6 | 100.0 | 402 | 69.2 | 100.0 |
| Most used channels to communicate with the main bank | | | | | | | | | | |
| *chn* | Counter | 59 | 14.7 | 14.7 | 83 | 21.4 | 21.4 | 82 | 14.1 | 14.1 |
| | Telephone banking | 14 | 3.5 | 18.2 | 203 | 52.5 | 73.9 | 221 | 38.0 | 52.2 |
| | Internet/Mobile banking | 328 | 81.8 | 100.0 | 101 | 26.1 | 100.0 | 278 | 47.8 | 100.0 |
| Factors that most impede satisfaction with the main bank the most | | | | | | | | | | |
| *fctpen1* | Low interest rates for financial investments | 183 | 45.6 | 100.0 | 147 | 38.0 | 100.0 | | a) | |
| *fctpen2* | Charging commissions for the provision of services | 314 | 78.3 | 100.0 | 328 | 84.8 | 100.0 | | a) | |
| *fctpen3* | Decrease in human contact due to the use of new technologies | 125 | 31.2 | 100.0 | 110 | 28.4 | 100.0 | | a) | |
| *fctpen4* | Difficulty obtaining credit | 82 | 20.4 | 100.0 | 84 | 21.7 | 100.0 | | a) | |
| *fctpen5* | Other | 13 | 3.2 | 100.0 | 17 | 4.4 | 100.0 | | a) | |

### ***Differences across years***

Firstly, difference tests were carried out between the means of the 2023, 2019, and 2013 samples for each of the items. No statistically significant differences were found, except for *item22* ("How has your satisfaction changed with the use of new technologies to replace human contact in bank branches/counters?") [$F(2) = 1500.865$, $p = 0.000$] and *item24* ("How would you rate your confidence in the future of banking in your country?") [$F(2) = 467.18$, $p = 0.000$]. Thus, for both item22 and item24, the differences between

2013 and 2019 ($p$ = 0.000) and between 2013 and 2023 ($p$ = 0.000) are statistically significant, but not between 2023 and 2019 (respectively, $p$ = 0.366 and $p$ = 0.911). Accordingly, one can deduce that satisfaction with the use of new technologies to replace human contact has slightly decreased from 2019 (3.70±1.09) to 2023 (3.55±1.08). This outcome allows to address RQ5 in that satisfaction with the use of new technologies has significantly decreased in contrast with the expectations that because banks reinforced the head-counting at the branch level, it would compensate for the reduction in the granularity of the branches network, associated with the digital transition of retail banking (see Bravo et al., 2019; Vater et al., 2012). Moreover, confidence in the future of banking in Portugal has increased from 2019 (2.87±0.99) to 2023 (2.91±1.08).

Regarding the factors that can most impede satisfaction with the customer's main bank, statistically significant differences were found between 2023 and 2019 in the variables *fctpen1* ("Low interest rates for financial investments") [$\chi^2(1)$ = 0.711, $p$ = 0.399] and *fctpen2* ("Charging commissions for the provision of services") [$\chi^2(1)$ = 5.428, $p$ = 0.020]. The percentage of respondents that believed low interest rates impacted satisfaction with the bank increased from 2019 (38.0 percent) to 2023 (45.6 percent), while charging a commission for the provision of services was considered to reduce satisfaction by 84.8 percent in 2019 and 78.3 percent in 2023.

### *Differences according to sociodemographic characteristics*

In general, few statistically significant differences were found in the gender and education aspects of sociodemographic groups. However, more differences exist in age groups and several items in 2019 and 2023.

*Gender*

No statistically significant differences between gender groups were found in any item, except for *item11* in 2013 [$F(579)$ = 2.407, $p$ = 0.016], with women (7.62±1.64) indicating that they are confident in their main bank than men (7.26±2.00).

*Age*

In 2013, no statistically significant differences were found between education groups regarding all items. In 2023 and 2019, however, several significant differences were found, which are documented in Table 4 and Table 5, along with the significant pairwise multiple comparisons.

Regarding the trust people place in their bank (*item11*), it appears that those aged below 36 years old and above 65 years old are more confident than their counterparts. In 2023, respondents specifically aged between 26 and 35 years old (8.21±1.47, $p$ = 0.023) are more confident than those aged between 36 and 50 years old (7.05±2.11), while the latter also score lower than clients aged above 65 years old (8.10±1.67, $p$ = 0.028). In 2019, the single statistically significant difference is between the younger clients (<26 years old, 7.98±1.55, $p$ = 0.019).

In 2023, loyalty, expressed by *item12* ("The next time you need banking products and services, how likely is it that you will choose your primary bank again?"), was higher among the youngest and the oldest clients. As such, clients aged below 26 years old are significantly more loyal (8.18±1.68) than those aged between 36 and 50 years old (6.67±2.78, $p$ = 0.012), while the latter are significantly less loyal than clients aged above 65 years old are more loyal (8.02±2.34, $p$ = 0.018).

**Table 4: Differences between age groups for items in 2023.**

$N$ = Frequency; $M$ = Mean; $SD$ = Standard deviation. (a) Only statistically significant items are displayed; together with ANOVA tests; (b) Only significant multiple comparisons are displayed.

| Items (a) / Age groups | | *N* | *M* | *SD* | Age groups – Multiple comparisons – Significance (b) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | *1* | *2* | *3* | *4* | *5* |
| item11 | How would you rate your confidence in your main bank? $F(4)$ = 3.907, $p$ = 0.004 | | | | | | | | |
| *1* | 18-25 | 34 | 7.88 | 1.68 | | | | | |
| *2* | 26-35 | 33 | 8.21 | 1.47 | | | 0.023 | | |
| *3* | 36-50 | 116 | 7.05 | 2.11 | | 0.023 | | | 0.028 |
| *4* | 51-65 | 177 | 7.58 | 2.02 | | | | | |
| *5* | >65 | 41 | 8.10 | 1.67 | | | 0.028 | | |
| item12 | The next time you need banking products and services, how likely is it that you will choose your primary bank again? $F(4)$ = 4.301, $p$ = 0.002 | | | | | | | | |
| *1* | 18-25 | 34 | 8.18 | 1.68 | | | 0.012 | | |
| *2* | 26-35 | 33 | 7.70 | 2.24 | | | | | |
| *3* | 36-50 | 116 | 6.67 | 2.78 | | 0.012 | | | 0.018 |
| *4* | 51-65 | 177 | 7.38 | 2.29 | | | | | |
| *5* | >65 | 41 | 8.02 | 2.34 | | | 0.018 | | |
| item13 | How likely would you be to recommend your main bank to your closest friends and family? $F(4)$ = 5.207, $p$ = 0.010 | | | | | | | | |
| *1* | 18-25 | 34 | 7.56 | 2.25 | | | 0.042 | | |
| *2* | 26-35 | 33 | 7.85 | 1.94 | | | 0.007 | | |
| *3* | 36-50 | 116 | 6.24 | 2.80 | 0.042 | 0.007 | | 0.045 | 0.004 |
| *4* | 51-65 | 177 | 7.04 | 2.32 | | | 0.045 | | |
| *5* | >65 | 41 | 7.80 | 2.00 | | | 0.004 | | |
| item24 | How would you rate your confidence in the future of banking in your country? $F(4)$ = 2.624, $p$ = 0.034 | | | | | | | | |
| *1* | 18-25 | 34 | 2.97 | 1.19 | | | | | |
| *2* | 26-35 | 33 | 2.82 | 0.95 | | | | | |
| *3* | 36-50 | 116 | 2.69 | 1.11 | | | | | 0.026 |
| *4* | 51-65 | 177 | 2.98 | 1.06 | | | | | |
| *5* | >65 | 41 | 3.27 | 1.03 | | | 0.026 | | |
| Item31 | How would you rate your overall satisfaction with your main bank? $F(4)$ = 5.165, $p$ = 0.000 | | | | | | | | |
| *1* | 18-25 | 34 | 7.85 | 1.56 | | | 0.019 | | |
| *2* | 26-35 | 33 | 7.97 | 1.90 | | | 0.009 | | |
| *3* | 36-50 | 116 | 6.53 | 2.43 | 0.019 | 0.009 | | | 0.020 |
| *4* | 51-65 | 177 | 7.02 | 2.24 | | | | | |
| *5* | >65 | 41 | 7.76 | 2.05 | | | 0.020 | | |

Concerning the likelihood of clients recommending their main bank to friends and family (*item13*), results in 2023 show that the age segment aged between 36 and 50 years old is significantly less inclined to do so (6.24±2.80) than those aged below 26 years old (7.56±2.25, $p$ = 0.042), 26 and 35 years old (6.24±2.80, $p$ = 0.007), 51 and 65 years old

(7.04±2.32, *p* = 0.045), and above 65 years old (7.80±2.00, *p* = 0.004). In 2019, respondents aged below 26 years old (8.05±1.85) were significantly more likely to recommend their main bank to third parties than those aged between 36 and 50 years old (6.77±2.23, *p* = 0.011) and 51 and 65 years old (7.04±2.18, *p* = 0.009).

**Table 5: Differences between age groups for items in 2019.**

*N* = Frequency; *M* = Mean; *SD* = Standard deviation. (a) Only statistically significant items are displayed; together with ANOVA tests; (b) Only significant multiple comparisons are displayed.

| | Items (a) / Age groups | *N* | *M* | *SD* | Age groups – Multiple comparisons – Significance (b) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | *1* | *2* | *3* | *4* | *5* |
| item11 | How would you rate your confidence in your main bank? $F(4) = 2.615, p = 0.035$ | | | | | | | | |
| *1* | 18-25 | 42 | 7.98 | 1.55 | | | 0.032 | | |
| *2* | 26-35 | 51 | 7.63 | 1.73 | | | | | |
| *3* | 36-50 | 142 | 7.08 | 1.85 | 0.032 | | | | |
| *4* | 51-65 | 125 | 7.23 | 1.79 | | | | | |
| *5* | >65 | 27 | 7.19 | 1.59 | | | | | |
| item13 | How likely would you be to recommend your main bank to your closest friends and family? $F(4) = 3.249, p = 0.012$ | | | | | | | | |
| *1* | 18-25 | 42 | 8.05 | 1.85 | | | 0.011 | 0.009 | |
| *2* | 26-35 | 51 | 7.22 | 2.33 | | | | | |
| *3* | 36-50 | 142 | 6.77 | 2.23 | 0.011 | | | | |
| *4* | 51-65 | 125 | 6.73 | 2.34 | 0.009 | | | | |
| *5* | >65 | 27 | 7.04 | 2.18 | | | | | |
| Item22 | How has your satisfaction changed with the use of new technologies to replace human contact in bank branches/counters? $F(4) = 3.526, p = 0.008$ | | | | | | | | |
| *1* | 18-25 | 42 | 4.00 | 0.91 | | | | | 0.008 |
| *2* | 26-35 | 51 | 3.84 | 1.12 | | | | | 0.037 |
| *3* | 36-50 | 142 | 3.76 | 1.06 | | | | | 0.035 |
| *4* | 51-65 | 125 | 3.58 | 1.14 | | | | | |
| *5* | >65 | 27 | 3.11 | 1.05 | 0.008 | 0.037 | 0.035 | | |
| Item23 | How would you classify the evolution of your confidence in the use of new technologies to replace human contact in bank branches/counters? $F(4) = 3.342, p = 0.010$ | | | | | | | | |
| *1* | 18-25 | 42 | 3.90 | 0.85 | | | | | 0.006 |
| *2* | 26-35 | 51 | 3.45 | 1.14 | | | | | |
| *3* | 36-50 | 142 | 3.57 | 1.08 | | | | | |
| *4* | 51-65 | 125 | 3.42 | 1.12 | | | | | |
| *5* | >65 | 27 | 3.00 | 0.88 | 0.006 | | | | |

In 2019, satisfaction changed following the adoption of new technologies that replace human contact (*item22*), namely in bank branches and counters. Satisfaction decreases as client age increases, and statistically significant differences were found between clients aged above 65 years old (3.11±1.05), whose satisfaction changed the least, and those aged below 26 years old (4.00±0.91, *p* = 0.008), between 26 and 35 years old (3.84±1.12, *p* = 0.037), and between 36 and 50 years old (3.76±1.06, *p* = 0.035). In the same year, clients aged below 26 years old (3.90±0.85) significantly believed more than those aged above 65 years old (3.00±0.88, *p* = 0.006) that their satisfaction with adopting new technologies that replace human contact in branches and counters was increasing (*item23*). In 2023, no statistically significant differences between age groups were found regarding *item22* and *item23*.

Regarding *item24*, respondents aged between 36 and 50 years old (2.69±1.11) are less confident in the future of banking in Portugal than those aged above 65 years old (3.27±1.03, $p = 0.026$).

Finally, in 2023, the respondents' overall satisfaction with their main bank, measured by *item31*, documents that the age segment aged between 36 and 50 years old are significantly less satisfied (6.53±2.43) than those aged below 26 years old (7.85±1.56, $p = 0.019$), 26 and 35 years old (7.97±1.90, $p = 0.009$), and above 65 years old (7.02±2.24, $p = 0.0204$). In 2019, no significant differences were found between age groups concerning overall satisfaction.

*Education*

In 2023, a statistically significant difference was found [$F(3) = 3.778$, $p = 0.011$] between respondents with basic/secondary education (2.62±1.04) and those with a doctorate (3.35±1.01, $p = 0.007$) regarding their confidence in the future of banking in the country (*item24*). In 2019, no statistically significant differences were found.

**Table 6: Differences between education groups for items in 2013.**

*N* = Frequency; *M* = Mean; *SD* = Standard deviation. (a) Only statistically significant items are displayed; together with ANOVA tests; (b) Only significant multiple comparisons are displayed.

| | Items (a) / Education groups | *N* | *M* | *SD* | Education groups – Multiple comparisons – Significance (b) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | *1* | *2* | *3* | *4* |
| item11 | How would you rate your confidence in your main bank? $F(3) = 2.868$, $p = 0.036$ | | | | | | | |
| *1* | Basic/Secondary | 83 | 7.39 | 1.87 | | | | |
| *2* | Degree | 306 | 7.44 | 1.79 | | | | |
| *3* | Master's degree | 103 | 7.83 | 1.64 | | | | 0.019 |
| *4* | Doctorate | 89 | 7.06 | 2.10 | | | 0.019 | |
| item12 | The next time you need banking products and services, how likely is it that you will choose your primary bank again? $F(3) = 3.391$, $p = 0.018$ | | | | | | | |
| *1* | Basic/Secondary | 83 | 7.34 | 2.24 | | | | |
| *2* | Degree | 306 | 7.55 | 2.16 | | | | |
| *3* | Master's degree | 103 | 8.08 | 1.83 | | | | 0.015 |
| *4* | Doctorate | 89 | 7.15 | 2.34 | | | 0.015 | |
| item13 | How likely would you be to recommend your main bank to your closest friends and family? $F(3) = 3.809$, $p = 0.010$ | | | | | | | |
| *1* | Basic/Secondary | 83 | 7.16 | 2.42 | | | | |
| *2* | Degree | 306 | 7.17 | 2.27 | | | 0.048 | |
| *3* | Master's degree | 103 | 7.83 | 2.00 | | 0.048 | | 0.006 |
| *4* | Doctorate | 89 | 6.76 | 2.38 | | | 0.006 | |
| item24 | How would you rate your confidence in the future of banking in your country? $F(3) = 3.128$, $p = 0.025$ | | | | | | | |
| *1* | Basic/Secondary | 83 | 5.17 | 2.22 | | | | |
| *2* | Degree | 306 | 5.50 | 1.91 | | | | |
| *3* | Master's degree | 103 | 5.82 | 1.88 | | | | 0.031 |
| *4* | Doctorate | 89 | 5.02 | 2.16 | | | 0.031 | |

In 2013, statistically significant differences were found concerning the items displayed in Table 6. All significant pairwise comparisons show that respondents with master's degree score higher in the items below, appearing to be more confident and loyal to their main bank, more willing to recommend it to third parties, and more confident in the future of Portuguese banking.

## V. Summary and concluding remarks

In the rapidly evolving landscape of European retail banking, a comprehensive study of the Portuguese market reveals profound transformations driven by technological innovation, regulatory changes, and shifting consumer behaviors. As Omarini (2022) highlighted, the key drivers of change encompass technology, regulation, new competitors, and evolving consumer attitudes.

The research, spanning 2013, 2019, and 2023, demonstrates remarkable stability in core banking relationships, with trust, loyalty, and overall satisfaction consistently maintaining high mean scores. However, a complex narrative of technological adaptation and generational divergence lies beneath this apparent stability. Bill Gates' prescient observation that "banking is necessary, banks are not" (Sotubo, 2020) resonates throughout the study, underscoring the fundamental disruption in traditional banking models.

Technological transformation emerges as a critical theme, with digital innovations reshaping service delivery. Pousttchi and Dehnert (2018) argue that retail banking has undergone a massive transformation, primarily driven by changing consumer behavior. The deployment of digital technologies has enabled innovative marketing strategies catering to increasingly empowered and tech-savvy customers (Mainardes et al., 2020).

Demographic analysis reveals nuanced patterns of banking perception. Younger (below 36) and older (above 65) clients consistently demonstrated higher levels of bank loyalty and satisfaction, while the 36-50 age group showed the lowest satisfaction metrics. This generational divide aligns with Boonlertvanich's (2019) observations about technology adoption and comfort levels across different age groups.

The study confirms existing scholarly research that customer satisfaction, trust, and loyalty are crucial drivers of retail banking competitiveness, as articulated by Kim et al. (2024) and van Deventer and Redda (2021). Hult et al. (2019) characterize these factors as the "holy grail" of retail banking, critical for reputation, repeated business, and word-of-mouth recommendations.

Technological adaptation presents a complex challenge. While digital transformations offer unprecedented opportunities, Svatoš (2021) notes that the banking industry remains inherently conservative, with technology applications progressing relatively slowly. The careful balance between technological innovation and maintaining customer trust emerges as a critical strategic consideration.

The research uncovered interesting economic sensitivity trends. Interest rates increasingly impact customer perceptions, rising from 38% to 45.6% between 2019 and 2023. Service commission charges remain a significant dissatisfaction factor, reflecting customers' growing financial scrutiny.

Theoretical contributions extend beyond descriptive analysis. The study demonstrates the shift from traditional rational choice theory to behavioral economics in understanding customer banking behaviors. As Hamouda (2019) suggests, consumer behavior in multichannel distribution structures varies significantly across different service channels.

Strategic implications are profound. Banks must develop age-specific engagement strategies, invest in technologies that complement human interaction, and create personalized experiences that bridge generational preferences. The future of banking lies not in choosing between technology and human touch but in creating seamless, integrated experiences that leverage both digital efficiency and personalized service.

Limitations exist, primarily in the study's focus on the Portuguese market. Future research should explore broader international comparisons, delve deeper into generational differences, and investigate the long-term impacts of technological transformation.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

**Table A1: Variables.**

| | | |
|---|---|---|
| **Demographic variables** | | |
| Gender | 0 – Female; 1 - Male | |
| Age group | 1 – 18-25 years old; 2 – 26-35 years old; 3 – 36-50 years old; 4 – 51-65 years old; 5 – More than 65 years old | |
| Education | 1 – Basic/Secondary; 2 – Degree; 3 – Master; 4 - Doctorate | |
| **Other variables** | | |
| *bpr* | How many years have you been a customer of your main bank? | 1 – Less than 1 year; 2 – 1-5 years; 3 – 6-10 years; 4 – More than 10 years |
| *chn* | Which channel do you use most often to communicate with your main bank? | 1 – Counter; 2 – Telephone banking; 3 - Internet/Mobile banking |
| | Which factors can most penalize satisfaction with your main bank: (you can choose more than one option) | |
| *fctpen1* | Low interest rates for financial investments | 0 – No; 1 - Yes |
| *fctpen2* | Charging commissions for the provision of services | |
| *fctpen3* | Decrease in human contact due to the use of new technologies | |
| *fctpen4* | Difficulty obtaining credit | |
| *fctpen5* | Other | |
| *item11 (trust)* | 1.1 - How would you rate your confidence in your main bank? | 10-point Likert scale: 1 – Very low to 10 – Very high |
| *item12 (loyalty)* | 1.2 - The next time you need banking products and services, how likely is it that you will choose your primary bank again? | |
| *item13 (word-of-mouth)* | 1.3 - How likely would you be to recommend your main bank to your closest friends and family? | |
| *item21 (technology adoption)* | 2.1 - How would you rate the importance of having access to human contact for service at bank branches/counters? | |
| *item22 (technology adoption)* | 2.2 - How has your satisfaction changed with the use of new technologies to replace human contact in bank branches/counters? | |
| *item23 (technology adoption)* | 2.3 - How would you classify the evolution of your confidence in the use of new technologies to replace human contact in bank branches/counters? | |
| *item24 (future of banking sentiment)* | 2.4 - How would you rate your confidence in the future of banking in your country? | |
| *item31 (satisfaction)* | 3.1 - How would you rate your overall satisfaction with your main bank? | |

## REFERENCES

Adarkar, A., Cantù, S., Dallerup, K., Giudici, V., & Lucchinetti, E. (2022). *Reshaping retail banks: Enhancing banking for the next digital age*. M. Company.

Altunbas, Y., Goddard, J., & Molyneux, P. (1999). Technical change in banking. *Economics Letters*, *64*(2), 215-221. https://doi.org/https://doi.org/10.1016/S0165-1765(99)00076-2

Angner, E. (2016). *A course in behavioral economics* (2 ed.). Palgrave Macmillan. https://doi.org/10.1007/978-1-137-51293-2

Beerli, A., Martín, J. D., & Quintana, A. (2004). A model of customer loyalty in the retail banking market. *European Journal of Marketing*, *38*(1/2), 253-275. https://doi.org/10.1108/03090560410511221

Berger, A. N., Molyneux, P., & Wilson, J. O. (2010). Banking: An overview. In A. N. Berger, P. Molyneux, & J. O. S. Wilson (Eds.), *Oxford Handbook of Banking* (pp. 1-33). Oxford University Press Inc.

Boonlertvanich, K. (2019). Service quality, satisfaction, trust, and loyalty: the moderating role of main-bank and wealth status. *International Journal of Bank Marketing*, *37*(1), 278-302. https://doi.org/10.1108/IJBM-02-2018-0021

Boot, A., & Thakor, A. V. (2010). The accelerating integration of banks and markets and its implications for regulation. In *The Oxford Handbook of Banking* (3 ed., pp. 58-90). Oxford University Press.

Borges, A. M. (1993). Portuguese banking in the single European market. In J. Dermine (Ed.), *European Banking in the 1990s* (2 ed., pp. 309-327). Blackwell Publishers.

Bravo, R., Martínez, E., & Pina, J. M. (2019). Effects of customer perceptions in multichannel retail banking. *International Journal of Bank Marketing*, *37*(5), 1253-1274. https://doi.org/10.1108/IJBM-07-2018-0170

Cevik, S. (2024). Is Schumpeter right? Fintech and economic growth. *Economics of Innovation and New Technology*, 1-12. https://doi.org/10.1080/10438599.2024.2413478

Chen, Y., Cheung, C. M. K., & Tan, C.-W. (2018). Omnichannel business research: Opportunities and challenges. *Decision Support Systems*, *109*, 1-4. https://doi.org/https://doi.org/10.1016/j.dss.2018.03.007

Coutinho dos Santos, M. (2021). Profitability, operating efficiency and capitalization of the portuguese banking system (1992-2009). *European Review of Business Economics*, *1*(1), 111-145. https://doi.org/10.26619/ERBE-2021.01.6

Dibb, S., & Meadows, M. (2001). The Application of a Relationship Marketing Perspective in Retail Banking. *The Service Industries Journal*, *21*(1), 169-194. https://doi.org/10.1080/714005011

Eriksson, K., Hermansson, C., & Jonsson, S. (2020). The performance generating limitations of the relationship-banking model in the digital era – effects of customers' trust, satisfaction, and loyalty on client-level performance. *International Journal of Bank Marketing*, *38*(4), 889-916. https://doi.org/10.1108/IJBM-08-2019-0282

Frame, W. S., Wall, L. D., & White, L. J. (2018). Technological change and financial innovation in banking: Some implications for fintech. *FRB Atlanta Working Paper No. 2018-11*. https://doi.org/10.29338/wp2018-11

Frandsen, T. F., & Nicolaisen, J. (2013). The ripple effect: Citation chain reactions of a nobel prize. *Journal of the American Society for Information Science and Technology*, *64*(3), 437-447. https://doi.org/10.1002/asi.22785

Glavee-Geo, R., Shaikh, A. A., & Karjaluoto, H. (2017). Mobile banking services adoption in Pakistan: are there gender differences? *International Journal of Bank Marketing*, *35*(7), 1090-1114. https://doi.org/10.1108/IJBM-09-2015-0142

Glover, J. (1995). Banks and fiduciary relationships. *Bond L. Rev.*, *7*, i.

Goddard, J., Molyneux, P., & Wilson, J. O. (2019). Banking in Europe: Integration, reform, and the road to a banking union. In A. N. Berger, P. Molyneux, & J. O. S. Wilson (Eds.), *Oxford Handbook of Banking* (3 ed., pp. 1000-1032). Oxford University Press Inc. https://doi.org/10.1093/oxfordhb/9780198824633.013.32

Górnicka, L. A. (2016). Banks and shadow banks: Competitors or complements? *Journal of Financial Intermediation*, *27*, 118-131. https://doi.org/https://doi.org/10.1016/j.jfi.2016.05.002

Gupta, P., Burns, D. J., & Schiferl, J. S. (2010). An exploration of student satisfaction with internship experiences in marketing. *Business Education & Administration*, *2*(1), 27-37. https://ssrn.com/abstract=1871152

Hamouda, M. (2019). Omni-channel banking integration quality and perceived value as drivers of consumers' satisfaction and loyalty. *Journal of Enterprise Information Management*, *32*(4), 608-625. https://doi.org/10.1108/JEIM-12-2018-0279

Harris, L. C., & Goode, M. M. H. (2004). The four levels of loyalty and the pivotal role of trust: a study of online service dynamics. *Journal of retailing*, *80*(2), 139-158. https://doi.org/https://doi.org/10.1016/j.jretai.2004.04.002

Harris, W. L., & Wonglimpiyarat, J. (2023). Fintech and the Digital Transformation of the Banking Landscape. In T. Walker, E. Nikbakht, & M. Kooli (Eds.), *The Fintech Disruption: How Financial Innovation Is Transforming the Banking Industry* (pp. 53-73). Springer International Publishing. https://doi.org/10.1007/978-3-031-23069-1_3

Heckel, M., & Waldenberger, F. (2022). Financial Systems in the Digital Age: Perspectives from Europe and Japan. In *The Future of Financial Systems in the Digital Age: Perspectives from Europe and Japan* (pp. 1-18). Springer Singapore Singapore. https://doi.org/10.1007/978-981-16-7830-1_1

Henrique, J. L., & Matos, C. A. d. (2015). The influence of personal values and demographic variables on customer loyalty in the banking industry. *International Journal of Bank Marketing*, *33*(4), 571-587. https://doi.org/10.1108/IJBM-06-2014-0082

Hult, G. T. M., Sharma, P. N., Morgeson, F. V., & Zhang, Y. (2019). Antecedents and Consequences of Customer Satisfaction: Do They Differ Across Online and Offline Purchases? *Journal of retailing*, *95*(1), 10-23. https://doi.org/https://doi.org/10.1016/j.jretai.2018.10.003

Human, G., & Naudé, P. (2014). Heterogeneity in the quality–satisfaction–loyalty framework. *Industrial Marketing Management*, *43*(6), 920-928. https://doi.org/https://doi.org/10.1016/j.indmarman.2014.05.006

Iglesias-Pradas, S., Acquila-Natale, E., & Del-Río-Carazo, L. (2022). Omnichannel retailing: A tale of three sectors. *Economic research - Ekonomska istraživanja*, *35*(1), 3305-3336. https://doi.org/10.1080/1331677X.2021.1991825

Järvinen, R. A. (2014). Consumer trust in banking relationships in Europe. *International Journal of Bank Marketing*, *32*(6), 551-566. https://doi.org/10.1108/IJBM-08-2013-0086

Kamath, P. R., Pai, Y. P., & Prabhu, N. K. P. (2020). Building customer loyalty in retail banking: a serial-mediation approach. *International Journal of Bank Marketing*, *38*(2), 456-484. https://doi.org/10.1108/IJBM-01-2019-0034

Kannan, P. K., & Li, H. A. (2017). Digital marketing: A framework, review and research agenda. *International Journal of Research in Marketing*, *34*(1), 22-45. https://doi.org/https://doi.org/10.1016/j.ijresmar.2016.11.006

Khon, S., Nizam, A., Tan, D., & Taraporevala, Z. (2022). *Best of both worlds: Balancing Digital and Physical Channels in retail banking* (Financial Services Practice, Issue. M. Company. https://phygital.gi-de.com/corporate/Phygital_Banking/McKinsey_best-of-both-worlds-balancing-digital-and-physical-channels-in-retail-banking.pdf

Kim, L., Jindabot, T., & Yeo, S. F. (2024). Understanding customer loyalty in banking industry: A systematic review and meta analysis. *Heliyon*. https://doi.org/10.1016/j.heliyon.2024.e36619

Kleimeier, S., & Sander, H. (2007). *Integrating Europe's Retail Banking Markets: Where do we stand? A survey of the academic evidence* (9290797347). (CEPS Reports in Finance and Banking, Issue. Centre for European Policy Studies (CEPS).

Kleimeier, S., & Sander, H. (2022). Twenty years with the Euro: Eurozone banking market integration revisited. *Economic Modelling*, *114*, 105940. https://doi.org/https://doi.org/10.1016/j.econmod.2022.105940

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications. https://doi.org/10.1207/s15328007sem0703_8

Levesque, T., & McDougall, G. H. G. (1996). Determinants of customer satisfaction in retail banking. *International Journal of Bank Marketing*, *14*(7), 12-20. https://doi.org/10.1108/02652329610151340

Liébana-Cabanillas, F., Muñoz-Leiva, F., & Rejón-Guardia, F. (2013). The determinants of satisfaction with e-banking. *Industrial Management & Data Systems*, *113*(5), 750-767. https://doi.org/10.1108/02635571311324188

Loureiro, S. M. C., Rüdiger Kaufmann, H., & Rabino, S. (2014). Intentions to use and recommend to others. *Online Information Review*, *38*(2), 186-208. https://doi.org/10.1108/OIR-01-2012-0100

Mainardes, E. W., Rosa, C. A. d. M., & Nossa, S. N. (2020). Omnichannel strategy and customer loyalty in banking. *International Journal of Bank Marketing*, *38*(4), 799-822. https://doi.org/10.1108/IJBM-07-2019-0272

Makudza, F. (2021). Augmenting customer loyalty through customer experience management in the banking industry. *Journal of Asian Business and Economic Studies*, *28*(3), 191-203. https://doi.org/10.1108/JABES-01-2020-0007

Manyanga, W., Makanyeza, C., & Muranda, Z. (2022). The effect of customer experience, customer satisfaction and word of mouth intention on customer loyalty: The moderating role of consumer demographics. *Cogent business & management*, *9*(1), 2082015. https://doi.org/10.1080/23311975.2022.2082015

Mehta, A., Thomas, K., Dallerup, K., Pancaldi, L., Dietz, M., Patiath, P., Laszlo, V., & Sohoni, V. (2024). *Global Banking Annual Review 2024: Attaining Escape Velocity*. M. C. McKinsey's Financial Services Practice.

Milan, G. S., Slongo, L. A., Eberle, L., De Toni, D., & Bebber, S. (2018). Determinants of customer loyalty: a study with customers of a Brazilian bank. *Benchmarking: An International Journal*, *25*(9), 3935-3950. https://doi.org/10.1108/BIJ-08-2017-0231

Neslin, S. A., & Shankar, V. (2009). Key Issues in Multichannel Customer Management: Current Knowledge and Future Directions. *Journal of interactive marketing*, *23*(1), 70-81. https://doi.org/10.1016/j.intmar.2008.10.005

Nguyen, T. H. H., & Coca-Stefaniak, J. A. (2020). Coronavirus impacts on post-pandemic planned travel behaviours. *Annals of Tourism Research*.

Omarini, A. (2022). The changing landscape of retail banking and the future of digital banking. In *The Future of Financial Systems in the Digital Age: Perspectives from Europe and Japan* (pp. 133-158). Springer Singapore. https://doi.org/10.1007/978-981-16-7830-1_8

Omarini, A. (2023). Shifting Paradigms in Banking: How New Service Concepts and Formats Enhance the Value of Financial Services. In T. Walker, E. Nikbakht, & M. Kooli (Eds.), *The Fintech Disruption: How Financial Innovation Is Transforming the Banking Industry* (pp. 75-113). Springer International Publishing. https://doi.org/10.1007/978-3-031-23069-1_4

Pousttchi, K., & Dehnert, M. (2018). Exploring the digitalization impact on consumer decision-making in retail banking. *Electronic Markets*, *28*(3), 265-286. https://doi.org/10.1007/s12525-017-0283-0

Quaglia, L. (2019). The politics of an 'incomplete' Banking Union and its 'asymmetric' effects. *Journal of European Integration*, *41*(8), 955-969. https://doi.org/10.1080/07036337.2019.1622541

Raza, A., Rather, R. A., Iqbal, M. K., & Bhutta, U. S. (2020). An assessment of corporate social responsibility on customer company identification and loyalty in banking industry: a PLS-SEM analysis. *Management Research Review*, *43*(11), 1337-1370. https://doi.org/10.1108/MRR-08-2019-0341

Riquelme, H. E., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, *28*(5), 328-341. https://doi.org/10.1108/02652321011064872

Rizzi, W., & Taraporevala, Z. (2019). *The balancing act: Omnichannel excellence in retail banking* (Global Banking, Issue. M. Company.

Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, *44*, 65-75. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2018.09.013

Sotubo, K. (2020). Banks and Fintech Companies–A Rivalry Situation or a Collaborative Opportunity. *Available at SSRN 3755051*. https://doi.org/10.2139/ssrn.3755051

Stephen, A. T. (2016). The role of digital and social media marketing in consumer behavior. *Current Opinion in Psychology*, *10*, 17-21. https://doi.org/10.1016/j.copsyc.2015.10.016

Stulz, R. M. (2022). FinTech, BigTech, and the future of banks. *Journal of Applied Corporate Finance*, *34*(1), 106-117. https://doi.org/10.1111/jacf.12492

Svatoš, O. (2021). Digitalization in Retail Banking. In A. Zimmermann, R. Schmidt, & L. C. Jain (Eds.), *Architecting the Digital Transformation: Digital Business, Technology, Decision Support, Management* (pp. 367-382). Springer International Publishing. https://doi.org/10.1007/978-3-030-49640-1_19

Tien, N. H., Anh, N., Dung, H., On, P., Anh, V., Dat, N., & Tam, B. (2021). Factors impacting customer satisfaction at Vietcombank in Vietnam. *Hmlyan J. Econ. Bus. Manag*, *2*, 44-51.

Tressel, T. (2014). Banking Union and single market: consistent setup and risk mitigation. In C. Enoch, L. Everaert, T. Tressel, & J. Zhou (Eds.), *From Fragmentation to Financial Integration in Europe* (pp. 169). International Monetary Fund.

Ulrich-Diener, F., Dvouletý, O., & Špaček, M. (2023). The future of banking: What are the actual barriers to bank digitalization? *BRQ Business Research Quarterly*, 23409444231211597. https://doi.org/10.1177/23409444231211597

Valsamidis, S., Tsourgiannis, L., Pappas, D., & Mosxou, E. (2020). Digital Banking in the New Era: Exploring Customers' Attitudes. In A. Horobet, P. Polychronidou, & A. Karasavvoglou (Eds.), *Business Performance and Financial Institutions in Europe: Business Models and Value Creation Across European Industries* (pp. 91-104). Springer International Publishing. https://doi.org/10.1007/978-3-030-57517-5_6

van Birgelen, M., de Jong, A., & de Ruyter, K. (2006). Multi-channel service retailing: The effects of channel performance satisfaction on behavioral intentions. *Journal of retailing*, *82*(4), 367-377. https://doi.org/https://doi.org/10.1016/j.jretai.2006.08.010

van Deventer, M., & Redda, E. (2021). Modeling the factors that explain customer loyalty in retail banking. *Innovative Marketing*, *17*(3), 135. https://doi.org/10.21511/im.17(3).2021.11

Vater, D., Cho, Y., & Sidebottom, P. (2012). *The digital challenge to retail banks*. B. Company. https://media.bain.com/Images/BAIN_BRIEF_Digital_challenge.pdf

Walker, T., Nikbakht, E., & Kooli, M. (2023). Fintech and Banking: An Overview. In T. Walker, E. Nikbakht, & M. Kooli (Eds.), *The Fintech Disruption: How Financial Innovation Is Transforming the Banking Industry* (pp. 1-8). Springer International Publishing. https://doi.org/10.1007/978-3-031-23069-1_1

Yoganathan, D., Jebarajakirthy, C., & Thaichon, P. (2015). The influence of relationship marketing orientation on brand equity in banks. *Journal of Retailing and Consumer Services*, *26*, 14-22. https://doi.org/https://doi.org/10.1016/j.jretconser.2015.05.006

Zandstra, E. H., Miyapuram, K. P., & Tobler, P. N. (2013). Understanding consumer decisions using behavioral economics. *Progress in brain research*, *202*, 197-211. https://doi.org/10.5167/uzh-73002