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Complaint management: comparison between traditional and digital banks and the benefits of using management systems for improvement

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Abstract

Purpose – This paper compares traditional and digital banks in nine categories of complaints and provides insights to improve complaint management performance.

Design/methodology/approach – A sample of the major Brazilian banks was defined, with four traditional and four digital banks. The grey relational analysis (GRA) method was applied as an analytical tool to compare the most frequent complaints of traditional and digital banks. The most critical complaints identified were considered to discuss potential improvements in complaint management using quality and service management system concepts.

Findings – The GRA method enabled the development of a ranking of nine complaint categories, considering the uncertainty involved in the data and differentiating between traditional and digital banks. The most critical complaint categories, regardless of business model, were "unauthorized charges" and "poor service," which

were ranked first and second in the frequency rankings. Traditional and digital banks differed the most in the complaint category "unfair charge," ranking third and eighth in the rankings, respectively.

Practical implications − Managers from traditional and digital banks can improve complaint management performance by applying ISO 9001 and ISO 20000 concepts such as incident, problem, change, service level, availability, capacity, information technology service continuity and financial management.

Social implications − The study's findings can help bank managers improve service levels in the face of technological competition. Improving these organizations is an important factor for developing countries such as Brazil.

Originality/value − This paper reveals the differences between two business models regarding complaint management. It also considers a methodological approach to include the uncertainty related to customers' perception and subjectivity inherent to complaints.

Keywords Complaint management, Complaint handling, Financial institutions, Banking services, Fintechs, Digitalization, Grey systems, Management system

Paper type Research paper

1. Introduction

The service sector is a vital component of the global economy and service research has gained traction in recent years (Donthu *et al.*, 2022; Huang *et al.*, 2021). According to Shams *et al.* (2020), customer satisfaction is the main goal of service sector in highly competitive advanced technological environments. In this context, banks, which are important financial service organizations in the economic development of countries, are evolving rapidly to tailor customer dynamic financial needs (Calvo-Porral and Lèvy-Mangin, 2020; Morgeson *et al.*, 2020). In fact, the banking industry is characterized as a highly competitive, technological environment where organizations compete fiercely to retain and attract new customers (Hajiheydari *et al.*, 2021; Islam *et al.*, 2021; Jiao *et al.*, 2020).

The influence of technology on banking services provision has become evident with the emergence of digital banks (Quatrochi *et al.*, 2022; Shiau *et al.*, 2020). Digital banks can be defined as startups that provide at least one type of financial service (e.g. financing, insurance, digital payments) while extensively employing innovative technologies (Laidroo and Avarmaa, 2020). Through technological advancements, digital banks are capable of offering services with higher quality and added value, providing thus a better experience for customers (Chauhan *et al.*, 2022). Thus, digital banks are challenging traditional banks' business models by providing more innovative and customized services (Agarwal and Chua, 2020). Shiau *et al.* (2020) supported this view by mentioning transparency, reduced operational costs and easier access to information as advantages of digital banks.

In this context, whether to maintain the market share − in the case of traditional banks−or to gain new customers − in the case of digital banks − the quality of the services offered is regarded as a critical factor for business success and continuity (Ferreira *et al.*, 2015; SadrAbadi *et al.*, 2021). As a consequence, regardless of their business models, banks are increasingly investing in technology and quality service improvements to satisfy and retain customers (Aslam *et al.*, 2022; Ponsignon *et al.*, 2015).

The literature on banking services has emphasized complaint management as a critical success factor as it directly affects customer satisfaction and loyalty (Cambra-Fierro *et al.*, 2016; Chauhan *et al.*, 2022; Salim *et al.*, 2018). A complaint represents a signal from customers who are dissatisfied but want to give the company a chance to keep them as clients (Jeanpert *et al.*, 2021). Research have shown that, on the one hand, dissatisfaction is one of the main reasons why customers switch banks (Gambetta *et al.*, 2015; Manrai and Manrai, 2007), while, on the other hand, satisfied customers are reliable sources of banking industries viability and survival (Tetteh and Boachie, 2021). Thus, managing complaints is key for enhancing banks performance (Cambra-Fierro *et al.*, 2015; Chauhan *et al.*, 2022; Shams *et al.*, 2020).

In order to remain competitive, banks are expected to handle complaints correctly and resolve them with promptness, agility and attention (Salim *et al.*, 2018; Shams *et al.*, 2020).

Additional pressure to manage complaints efficiently is put on banks due to customer protection policies (Gaganis *et al.*, 2020). In dealing with customer satisfaction, banks have been demanded to provide increasingly accessible means for customers to solve their problems (Komulainen and Saraniemi, 2019), as well as showing courtesy and an ever-increasing level of service (Sampson and Money, 2015). Accordingly, complaint management, understood as strategies firms use to resolve and learn from service failures in order to (re) establish the organization's reliability in the eyes of the customer (Hart *et al.*, 1990), including both proactive and reactive organizational responses (Arora and Chakraborty, 2020), has proven to be a strategic factor in the competitiveness of banks (Morgeson *et al.*, 2020).

Given the significance of complaint management, which can affect all stakeholders (Shams *et al.*, 2020), as well as the innovations in banking services brought about by digitalization (Chauhan *et al.*, 2022), it is necessary to investigate how traditional and digital banks have dealt with the issue. As highlighted by Shin *et al.* (2019), there is a need for research to help understand customer perceptions of services provided by banks with different business models. In addition, there is a gap in the services literature on the use of management systems standards (Chiarini *et al.*, 2020; Chountalas *et al.*, 2020), particularly in the banking sector (Husseini *et al.*, 2018; Sunder *et al.*, 2019).

Considering that complaint management is regarded as a central theme for the evolution of both service research (Donthu *et al.*, 2022) and bank competitiveness (Cotugno and Stefanelli, 2023), it is important to investigate it in different contexts. This paper compares traditional and digital banks in nine categories of complaints and provides insights to improve complaint handling performance.

This study was conducted considering banks in Brazil. In the Brazilian context, traditional banks are undergoing a rigorous process of closing physical branches and strengthening digital channels in order to achieve a better balance of physical and digital services. According to the Brazilian Federation of Banks (FEBRABAN, 2022a), 3,591 physical banking facilities in the country have been closed since 2018, a 16.5% decrease. In 2021, 1,017 physical bank branches were closed in Brazil, a process accelerated by digitalization and the COVID-19 pandemic. Furthermore, only 3% of the 100 billion banking transactions in 2021 were executed in physical branches (FEBRABAN, 2022b). The increased level of competition in the financial market highlights the significance of banks evaluating the services they offer (Mir *et al.*, 2023). Thus, this study can be of great value for managers to improve service levels in both traditional and digital banks.

It is also important to mention that the complaint management literature has demonstrated the importance of considering the uncertainty involved in this type of study given its relationship with customer's perception and subjectivity (Harb *et al.*, 2022; Yang *et al.*, 2022). In this sense, this study also has methodological value, as it takes this point into account by applying the Grey Systems Theory, which have been extensively applied in the analysis of data involving uncertainty (Kuo *et al.*, 2008; Liu *et al.*, 2016; Liu and Lin, 2010).

The remainder of this paper is organized as follows. Section 2 consists of the conceptual background that supports the study. Section 3 describes in detail the materials and methodological procedures used to conduct this research. Section 4 contains the results and discussion. Finally, section 5 presents the conclusions, limitations and opportunities for future research.

2. Background
2.1 Complaint management
As stated by Arora and Chakraborty (2020), while all organizations strive for success, they are human collectivities, and as such, none are infallible. When an organization fails, it can generate a complaint from a customer who wants to give the organization another chance to

keep he/she as a customer (Jeanpert *et al.*, 2021). Thus, the way organizations manage complaints has received special attention in service research (Donthu *et al.*, 2022; Shams *et al.*, 2020), since it directly impacts customer loyalty and business performance (Cambra-Fierro *et al.*, 2015; Chauhan *et al.*, 2022; Shams *et al.*, 2020).

When faced with a complaint, the organization must respond. An organizational response can be defined as the initial reaction by a company in response to a complaint (Gelbrich and Roschk, 2011). Mistakes and failures on organizational response can lead to negative repercussions for organizations including additional complaints, negative word of mouth, loss of business and actions sought by third parties (Bolkan and Daly, 2009). Furthermore, organizations may view complaints solely as issues that need to be corrected, whereas others see them as opportunities to learn and improve internal processes (von Janda *et al.*, 2021; Yilmaz *et al.*, 2016).

Given the importance of how complaints are handled, organizations should consider several factors when responding. A widely accepted conceptual framework in the literature is that of Davidow (2000, 2003), who proposed six dimensions for organizational responses:

(1) Timeliness: the perceived speed with which an organization responds to or handles a complaint. Quick responses provide economic benefits by helping to increase the efficiency of the complaint-handling process and saving additional economic resources and effort on the part of the customer (Cambra-Fierro *et al.*, 2015);

(2) Facilitation: the policies, procedures and structure that a company has in place to support customers engaging in complaints and communications. Facilitation enables dissatisfied customers to report their complaints to the organization (Karatepe, 2006), which is key for organizational learning and improvement (von Janda *et al.*, 2021);

(3) Redress: the benefits or response outcome that a customer receives from the organization in response to the complaint. Such a benefit may involve more than just the purchase price and may cover additional costs of the failure and intangible response outcomes that can be considered to be psychological compensation (Gelbrich and Roschk, 2011);

(4) Apology: an acknowledgment by the organization of the complainant's distress. As emphasized by Cambra-Fierro *et al.* (2015), admitting the organizations' mistake and offering the customer a sincere apology and an explanation provide customers with social benefits;

(5) Credibility: the organization's willingness to present an explanation or account for the problem. Credibility affects the brand which has a critical impact on consumer decision-making, purchasing process and choice behavior (Shams *et al.*, 2020);

(6) Attentiveness: the interpersonal communication and interaction between the organizational representative and the customer. This includes respect, politeness, empathy and willingness to listen (Karatepe, 2006).

It is important that these factors are considered when organizations develop proactive and reactive strategies to resolve and learn from their failures (Arora and Chakraborty, 2020). Managers can rely on management systems to improve complaint management performance, particularly quality management systems (QMSs) and service management systems (SMSs), which are discussed in the following section.

2.2 Quality and service management systems in the banking sector
Quality and service management standards have been identified as critical for improving banking performance (Aslam *et al.*, 2022; Islam *et al.*, 2021; Tetteh and Boachie, 2021). ISO

9001:2015 specifies requirements for a QMS (ISO, 2015), whereas ISO/IEC 20000–1:2018 specifies requirements for an organization to establish, implement, maintain and continuously improve an SMS (ISO, 2018). It should be noted that the ISO 20000 standard is composed of several documents, but the first, formally known as ISO/IEC 20000–1, is the only part that establishes requirements for a SMS and thus it is frequently regarded as the entire standard (Cots et al., 2016).

When a QMS such as ISO 9001 is in place, it serves as a facilitator for the implementation of ISO 20000 (Leite et al., 2014). According to Ahmad et al. (2019), ISO 20000 has many similarities with ISO 9001 that can be worked on efficiently to reduce time and cost while increasing quality in its achievement and maintenance (See Table 1). While ISO 9001 has been extensively studied and its benefits are recognized in the most diverse economic sectors (Fonseca et al., 2022; Sfreddo et al., 2021; Wilson and Campbell, 2020), ISO 20000 is still little known outside the IT context, despite numerous research opportunities (Ahmad et al., 2019; Cots and Casadesús, 2015).

In this regard, it is worth noting that, while ISO 20000 are in the management of IT services, the current version contains no restrictions on its use for other types of services (ISO, 2018; Winkler and Wulf, 2019). Cots et al. (2016) support this standpoint, stating that ISO 20000 is a valuable tool for organizations seeking quality service management, whether they are IT-related or any other type of service-oriented organization.

When it comes to the banking industry, there are some studies in the literature that discuss ISO 9001 (Table 2), but none that address ISO 20000.

QMS and SMS can be used in the context of banking services to improve customer complaint handling performance, which has an impact on financial performance (Chauhan et al., 2022). It is widely acknowledged that handling customer complaints is critical for businesses. Complaints affect customers' perceptions of organizational justice and can harm

Group	Description	Process
Service delivery	Guarantee that services are delivered in accordance with previously agreed levels of service, with the costs defined and with the due characteristics of continuity, availability, capacity and safety	· Service level management · Service reporting · Service continuity and availability management · Budgeting and accounting for services · Capacity management · Information security management
Control	Manage configuration elements or assets that are used in the delivery of services; take decisions regarding the possibility, viability and convenience of making changes; and order and plan implementation of those changes approved by change management	· Configuration management process · Change management process · Release and deployment management process
Resolution	To prioritize and attend to users who have difficulties with the services or those who have to channel their requests, as well as incidents that can affect the delivered service; and to investigate possible root causes that can or do give rise to incidents	· Incident and service request management · Problem management
Relationship	To facilitate management with other parties (e.g. clients, users and other interested parties in the services) as long as these are not considered to be process-operating third parties	· Business relationship management · Supplier management

Source(s): Author's own creation based on Cots and Casadesús (2015) and Cots et al. (2016)

Table 1.
ISO 20000 processes

a company's image (Gelbrich and Roschk, 2011), but when handled properly, they can lead to customer satisfaction and loyalty (Jeanpert *et al.*, 2021). According to Istanbulluoglu (2017), prompt response to complaints increases satisfaction regardless of the consumers' goals. Complaint management is also important in understanding repurchase intention (Cambra-Fierro *et al.*, 2016) and the factors that contribute to the success of customer recovery programs (Varela-Neira *et al.*, 2010).

Complaint management has received increased attention in the banking sector due to the numerous effects on organizations such as reputation (Gambetta *et al.*, 2015), customer loyalty (Salim *et al.*, 2018), customers' recovery expectations and service image (Nguyen *et al.*, 2021), customer perception regarding ethical fairness (Chalmers, 2016) and brand credibility (Shams *et al.*, 2020). Furthermore, effective complaint management has the potential to reduce customer retaliation on social media (Agnihotri *et al.*, 2022).

In recent years, the virtual environment has emerged as a major challenge to banking industries (Chauhan *et al.*, 2022). The increased technical, technological and legal complexity in this new context necessitates organizational and customer adaptation to account for the idiosyncrasies of digital relations and consumption (Arcand *et al.*, 2017; Shin *et al.*, 2019). Thus, it can be stated that the debate on the use of QMS and SMS in the banking sector (Mir *et al.*, 2023; Sunder *et al.*, 2019) can benefit all stakeholders, particularly in terms of improving complaint management performance (Chauhan *et al.*, 2022; Jeanpert *et al.*, 2021).

3. Materials and methods

This study was developed through the six stages depicted in Figure 1. The research process was structured following the recommendations of Kuo *et al.* (2008), Liu and Lin (2010) and Liu *et al.* (2016).

A literature review was conducted in the first stage to establish the conceptual background on complaint management and the use of QMS and SMS in the banking sector. ScienceDirect,

Area in the banking sector	Reference
Accounting services	Rodrigues *et al.* (2016)
Investment services	Karapetrovic and Willborn (2001)
Banking performance	Husseini *et al.* (2018)
Financial risk assessment	Sitnikov *et al.* (2017)
Availability of banking operation	Carnero and Delgado (2008)
Online banking (customer loyalty)	Yaya *et al.* (2011)
Online banking (service recovery)	Yaya *et al.* (2013)
Online banking (customer loyalty)	Yaya *et al.* (2015)
Online banking (service recovery)	Yaya *et al.* (2014)
Source(s): Author's own creation	

Table 2.
Studies that discuss the use of ISO 9001 in the banking sector

Figure 1.
Research stages
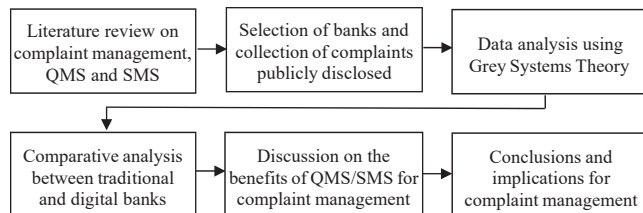
Source(s): Author's own creation

Scopus, Taylor and Francis and Emerald Insight were the scientific databases used. This step was critical in narrowing the scope of the research, establishing key concepts related to organizational response to customer complaint and the use of management systems in banks.

Following that, the banking sector's organizations to be included in the study were chosen. Eight Brazilian-relevant banks were included, four of which were classified as "traditional" and four as "digital." Traditional banks conduct the majority of their operations in physical facilities, whereas digital banks operate completely online. All of the selected banks are large enterprises under the definition of the Organization for Economic Cooperation and Development since they employ more than 250 people (OECD, 2022). The names of the banks are not revealed for privacy reasons, but it is worth mentioning that they are among the most important financial institutions in Brazil.

Data on customer complaints were obtained for each bank from "Reclame Aqui," Brazil's main online platform for customers to register complaints. This platform has been extensively used as data source in service management and customer satisfaction research (Cavalheiro et al., 2020; Kozinets, 2022; Kozinets et al., 2021). Initially, the data was collected in numerical and absolute terms and it was later converted into percentages of the total existing complaints for a given organization to measure for proportionality. This procedure was carried out in order to analyze the main complaints in terms of frequencies while avoiding data distortions.

The following nine categories were defined based on the classification of complaints used by this online platform:

(1) Poor service: complaints about poor service provided by a bank employee or the support delivered by the bank's websites and applications;

(2) Unauthorized charges: improper financial charges that come to the attention of the customer and that are not related to their actions;

(3) Payment refund: delay or wrong value in returning payment in case of bank error or mistake in any physical or digital banking procedure;

(4) Unfair charge: levels and rates of charges for services offered by the bank involving day-to-day operations and interest rates;

(5) Account closure: barriers, difficulties, lack of information, bureaucracy and insistence of the organization to close the bank account;

(6) Account opening: barriers, difficulties, lack of information, bureaucracy and insistence of the organization to open the bank account;

(7) Unauthorized – duplicate charges: occurrence of a double charge by the bank in relation to a specific action assigned to the customer;

(8) Card delivery delay: waiting time between requesting a new card in case of opening an account or losing the object;

(9) Debt workout: barriers, difficulties and lack of information regarding the arrangement of a negotiation between bank and client to take care of a debt.

It is worth noting that some categories had very specific subdivisions (e.g. undue charges) and were thus grouped into larger categories, obtaining the final nine complaint categories used in this study.

3.1 Grey relational analysis

After organizing the data by bank type and complaint category, grey relational analysis (GRA) was used compare the most frequent complaints of traditional and digital banks. The

use of Grey Systems Theory is justified by the uncertainties associated with the data under consideration (Liu *et al.*, 2016). Regardless of the national relevance of the platform used as data source, it should be considered that not all complaints about the analyzed banks are listed on the website, once there are other communication channels. Furthermore, while the complaint types defined can provide a good indication of the most common complaints, they are subject to uncertainty as a result of the categorizing process. Due to these characteristics of the data collected, GRA is an appropriate method of analysis because it offers a multi-object problem solving approach using interpolations between multiple factors and variables (Kuo *et al.*, 2008; Zheng *et al.*, 2010).

The GRA was also used to assess the degree of similarity between studied parameters (Satolo *et al.*, 2018). Following the recommendations of Kuo *et al.* (2008) and Satolo *et al.* (2018), the GRA was structured in four steps: 1) calculating the grey relational generating (GRG); 2) defining the target sequence; 3) calculating the grey relational coefficients (GRCs) and 4) calculating the grey relational grade (R).

The first step was the creation of the finite data matrix (Matrix 1). This matrix displays the frequency for a given category of complaint according to each bank examined in the rows, while the columns exhibit the frequency for each category of complaint for a specific bank. As a result, two matrices were created: one for traditional banks and another for digital banks.

$$Z \frac{1}{4} \frac{1}{2} Z]_{mxn} \qquad Z_{11} \dots Z_{1n} \dots Z_{m1} \dots Z_m \qquad \text{Matrix (1)}$$

In which, i **5** 12, …., m and j **5** 12, …., n

Next, GRG was calculated using Equation (1). This process of normalization was proposed by Kuo *et al.* (2008), which is based on "the-smaller-the-better" logic, meaning that the resulting ranking will display the complaint category with the lowest frequency in the first position, while the complaint category with the highest frequency will be ranked last.

$$X_{ij} \frac{1}{4} \frac{Max \ y_{ij}; i \frac{1}{4} 1; 2; \dots; m \ - y}{Max \ y_i; i \frac{1}{4} 1; 2; \dots; m \ - Min \ y_i; i \frac{1}{4} 1; 2; \dots; m \ - y_i} \qquad \text{Equation (1)}$$

In which, i **5** 1, 2, 3, …., m and j **5** 1, 2, 3, …., n.

In the second step, the target sequence was determined. Each element of the new matrix was calculated using Equation (2), in which $X_{0j} \frac{1}{4} 1$ and X_{ij} represents each element of the normalized matrix from the previous step.

$$\Delta_{ij} \ \frac{1}{4} \ X_{0j} - X_{ij} \qquad \text{Equation (2)}$$

The third step consisted of calculating the Grey Relational Coefficient (ε) using Equation (3):

$$\varepsilon_{ij} \ \frac{1}{4} \frac{\Delta_{min} \ \flat \ \rho \ \mathbf{3} \ \Delta_{max}}{\Delta_{ij} \ \flat \ \rho \ \mathbf{3} \ \Delta_{max}} \qquad \text{Equation (3)}$$

The values of Δ_{max} and Δ_{min} were calculated considering the values of the matrix obtained in the second step; Δ_{ij}, in turn, are the values obtained through Equation (2). The coefficient of distinction ρ can range from 0 to 1, with 0.5 serving as an average and being used in this study (Kuo *et al.*, 2008).

Finally, in the last step, the grey relational grade (R) was calculated using Equation (4). It is important to note that because all banks were given the same weight, it was calculated by the simple average of the GRC (ε) for each category of complaint.

$$R = \frac{1}{n} \sum_{k=1}^{n} \varepsilon_i \eth k \th \qquad \text{Equation (4)}$$

Based on the calculated R values, a ranking for the frequency of complaints of traditional and digital banks was obtained. The results were compared and used to discuss the potential benefits of integrated quality and service management practices.

4. Results

Following the step-by-step approach presented in the methods section, the data from eight banks was organized by type of bank and complaint category. Table 3 contains data for traditional banks (from TB1 to TB4), while Table 4 contains data for digital banks (from DB1 to DB4).

As previously stated, the normalization process was based on the smaller/better logic (Kuo *et al.*, 2008). Table 5 shows the values obtained after normalization for traditional banks, while Table 6 shows the values for digital banks.

Based on the normalized values, the target sequence was determined for traditional (Table 7) and digital banks (Table 8).

The GRCs were then calculated. Tables 9 and 10 show the results for traditional and digital banks, respectively.

Complaint category	TB1	TB2	TB3	TB4
Poor service	24.17%	27.89%	21.08%	22.75%
Unauthorized charges	26.98%	32.73%	28.11%	31.04%
Payment refund	10.17%	8.64%	9.95%	7.64%
Unfair charge	10.04%	8.99%	13.57%	7.92%
Account closure	10.92%	6.68%	8.99%	8.05%
Account opening	6.36%	4.45%	6.58%	9.94%
Unauthorized–duplicate charges	3.44%	1.93%	5.09%	2.35%
Card delivery delay	2.20%	1.35%	3.58%	5.94%
Debt workout	5.73%	7.34%	3.06%	4.36%
Source(s): Author's own creation				

Table 3. Frequency of complaints – traditional banks

Complaint category	DB1	DB2	DB3	DB4
Poor service	31.46%	9.01%	14.30%	14.63%
Unauthorized charges	10.54%	28.05%	23.76%	11.41%
Payment refund	10.45%	16.17%	7.95%	11.76%
Unfair charge	1.79%	6.68%	3.47%	0.62%
Account closure	1.06%	8.31%	26.54%	15.61%
Account opening	36.72%	0.00%	14.04%	20.42%
Unauthorized–duplicate charges	1.70%	3.52%	1.08%	2.74%
Card delivery delay	4.31%	21.28%	5.99%	21.13%
Debt workout	1.99%	6.97%	2.88%	1.68%
Source(s): Author's own creation				

Table 4. Frequency of complaints – digital banks

Finally, the grey relational grade (R) values were obtained, allowing the frequency of complaints for traditional (Table 11) and digital banks (Table 12) to be ordered, resulting in a ranking organized from lowest to highest frequency of complaint.

5. Discussion

Based on the results obtained, the most critical complaint (i.e. the category with the highest frequency) for both traditional and digital banks was "unauthorized charges." Another point of convergence between traditional and digital banks was the complaint category related to "poor service," which was ranked second in both rankings. This similarity is intriguing,

Complaint category	TB1	TB2	TB3	TB4
Poor service	0.11	0.15	0.28	0.29
Unauthorized charges	0.00	0.00	0.00	0.00
Payment refund	0.68	0.77	0.73	0.82
Unfair charge	0.68	0.76	0.58	0.81
Account closure	0.65	0.83	0.76	0.80
Account opening	0.83	0.90	0.86	0.74
Unauthorized–duplicate charges	0.95	0.98	0.92	1.00
Card delivery delay	1.00	1.00	0.98	0.88
Debt workout	0.86	0.81	1.00	0.93

Table 5. Frequencies normalized using the smaller/better concept – traditional banks

Source(s): Author's own creation

Complaint category	DB1	DB2	DB3	DB4
Poor service	0.15	0.68	0.48	0.32
Unauthorized charges	0.73	0.00	0.11	0.47
Payment refund	0.74	0.42	0.73	0.46
Unfair charge	0.98	0.76	0.91	1.00
Account closure	1.00	0.70	0.00	0.27
Account opening	0.00	1.00	0.49	0.03
Unauthorized–duplicate charges	0.98	0.87	1.00	0.90
Card delivery delay	0.91	0.24	0.81	0.00
Debt workout	0.97	0.75	0.93	0.95

Table 6. Frequencies normalized using the smaller/better concept – digital banks

Source(s): Author's own creation

Complaint category	TB1	TB2	TB3	TB4
Poor service	0.89	0.85	0.72	0.71
Unauthorized charges	1.00	1.00	1.00	1.00
Payment refund	0.32	0.23	0.27	0.18
Unfair charge	0.32	0.24	0.42	0.19
Account closure	0.35	0.17	0.24	0.20
Account opening	0.17	0.10	0.14	0.26
Unauthorized–duplicate charges	0.05	0.02	0.08	0.00
Card delivery delay	0.00	0.00	0.02	0.12
Debt workout	0.14	0.19	0.00	0.07

Table 7. Values for the target sequence – traditional banks

Source(s): Author's own creation

especially given the technological and customer experience advancements associated with digital banks (Panos and Wilson, 2020; Shiau *et al.*, 2020; Thakur and Anbanandam, 2015). This finding suggests that human interaction can be important in traditional banks when dealing with complaints about "unauthorized charges" and "poor services" (Ahmad *et al.*, 2019), whereas digital banks can investigate the effectiveness of technology-based solutions (Hajiheydari *et al.*, 2021).

The complaint with the lowest frequency for traditional banks was "card delivery delay," indicating that digitalization of banking services (Agarwal and Chua, 2020; Boot *et al.*, 2021), such as new card application and delivery, which allow the customer to do it online, thereby eliminating some tasks or steps of the process, may not be a critical factor. The least frequent

Complaint category	DB1	DB2	DB3	DB4
Poor service	0.85	0.32	0.52	0.68
Unauthorized charges	0.27	1.00	0.89	0.53
Payment refund	0.26	0.58	0.27	0.54
Unfair charge	0.02	0.24	0.09	0.00
Account closure	0.00	0.30	1.00	0.73
Account opening	1.00	0.00	0.51	0.97
Unauthorized–duplicate charges	0.02	0.13	0.00	0.10
Card delivery delay	0.09	0.76	0.19	1.00
Debt workout	0.03	0.25	0.07	0.05
Source(s): Author's own creation				

Table 8.
Values for the target sequence – digital banks

Complaint category	TB1	TB2	TB3	TB4
Poor service	0.36	0.37	0.41	0.41
Unauthorized charges	0.33	0.33	0.33	0.33
Payment refund	0.61	0.68	0.65	0.73
Unfair charge	0.61	0.67	0.54	0.72
Account closure	0.59	0.75	0.68	0.72
Account opening	0.75	0.83	0.78	0.65
Unauthorized–duplicate charges	0.91	0.96	0.86	1.00
Card delivery delay	1.00	1.00	0.96	0.80
Debt workout	0.78	0.72	1.00	0.88
Source(s): Author's own creation				

Table 9.
Grey relational coefficients – traditional banks

Complaint category	DB1	DB2	DB3	DB4
Poor service	0.37	0.61	0.49	0.42
Unauthorized charges	0.65	0.33	0.36	0.49
Payment refund	0.66	0.46	0.65	0.48
Unfair charge	0.96	0.68	0.84	1.00
Account closure	1.00	0.63	0.33	0.41
Account opening	0.33	1.00	0.50	0.34
Unauthorized–duplicate charges	0.97	0.80	1.00	0.83
Card delivery delay	0.85	0.40	0.72	0.33
Debt workout	0.95	0.67	0.88	0.91
Source(s): Author's own creation				

Table 10.
Grey relational coefficients – digital banks

Complaint category	R	Ranking	Complaint frequency
Card delivery delay	0.94	1st	**Lowest**
Unauthorized-duplicate charges	0.93	2nd	
Debt workout	0.84	3rd	
Account opening	0.75	4th	
Account closure	0.68	5th	
Payment refund	0.67	6th	
Unfair charge	0.64	7th	
Poor service	0.39	8th	
Unauthorized charges	0.33	9th	**Highest**

Table 11. Grey relational grade (R) – traditional banks

Source(s): Author's own creation

Complaint category	R	Ranking	Complaint frequency
Unauthorized - duplicate charges	0.90	1st	**Lowest**
Unfair charge	0.87	2nd	
Debt workout	0.85	3rd	
Account closure	0.59	4th	
Card delivery delay	0.57	5th	
Payment refund	0.56	6th	
Account opening	0.54	7th	
Poor service	0.47	8th	
Unauthorized charges	0.46	9th	**Highest**

Table 12. Grey relational grade (R) – digital banks

Source(s): Author's own creation

Type of bank	Most critical complaint category	Ranking	QMS/SMS concepts	Main potential benefits
Traditional and digital	Unauthorized charges	1st	Problem management	Addressing repetitive problems, identifying the root causes and accelerating the solution time
	Poor services	2nd	Availability management	Ensuring services availability
			IT service continuity	Establishing recovery and restoration measures
Traditional	Unfair charge	3rd	Incident management	Managing deviations and rapid reestablishment of services
Digital	Account opening	3rd	Capacity management	Enhancing specification of customers' needs

Table 13. Summary of potential improvements in complaint management considering the most critical and types of bank

Source(s): Author's own creation

type of complaint for digital banks was "unauthorized–duplicate charges." Given that technology innovation is the foundation of digital banks (Singh *et al.*, 2020), it was expected that the occurrence of duplicate charges would be lower for digital banks, while continuous improvement should remain as a priority for banking managers and organizations (Aslam *et al.*, 2022; Mir *et al.*, 2023).

"Unfair charge" for traditional banks and "account opening" for digital banks, as well as "payment refund" for both, raise attention because they were ranked top 4. Improving complaint management in these areas is critical because it can affect reputation (Gambetta *et al.*, 2015) and customer perception of ethical fairness (Chalmers, 2016). Banks must provide a positive customer experience in order to retain customers and grow their market share (Salim *et al.*, 2018).

Considering the results obtained and the importance of complaint management for banks, QMS and SMS practices, particularly those proposed by ISO 9001 and ISO 20000, can be beneficial for improvement. Figure 2 visually show how the concepts presented in these international standards can be integrated to generate potential benefits for the management of complaints.

Focusing on the most critical complaint categories, it is possible to think of several potential benefits of integrating QMS and SMS. "Unauthorized charges" was ranked as the most critical for both traditional and digital banks. Problem management is particularly important for repetitive problems (ISO, 2018) and the guidelines can be used to assist managers in identifying the root causes, accelerating the solution time and creating a solution bank (Cots and Casadesús, 2015; Leite *et al.*, 2014). This relates to the perceived speed with which an organization responds to or handles a complaint (Davidow, 2003). Timely responses result in financial gains by improving the efficiency of the complaint management process and saving the customer additional economic resources and time (Cambra-Fierro *et al.*, 2015).

Concerning the second most critical complaint category for both traditional and digital banks, "poor services," availability management can be used to identify, define and plan the necessary measures to ensure the required availability by the services (Ibrahimovic and Franke, 2017); whereas, IT service continuity management looks at unexpected interruptions in services, preparing and planning recovery and restoration measures (Cots *et al.*, 2016). Both availability management and IT service continuity management have an impact on the organization's credibility. Bank brand credibility can be affected in the context of banking services, including trustworthiness (banks' willingness to fulfill their promises) and expertise (banks' ability to fulfill their promises) (Shams *et al.*, 2020).

"Unfair charge" was the third most critical in traditional banks, and incident management guidelines can be used to manage deviations in the infrastructure, aiming for rapid reestablishment of services (Cots and Casadesús, 2015; Leite *et al.*, 2014). For digital banks, "account opening" appeared as the third most critical complaint category, and capacity management can help in specifying the demand and the client's needs (Afèche *et al.*, 2017). Research studies have observed that two aspects of organizational response are critical: facilitation and apology (Davidow, 2000, 2003). Banks must clearly establish policies, procedures and structures to assist customers (facilitation) so that those who are dissatisfied can file complaints (Karatepe, 2006). Cambra-Fierro *et al.* (2015) added that banks must admit failure and offer genuine apologies and explanations to customers. Following the principle of
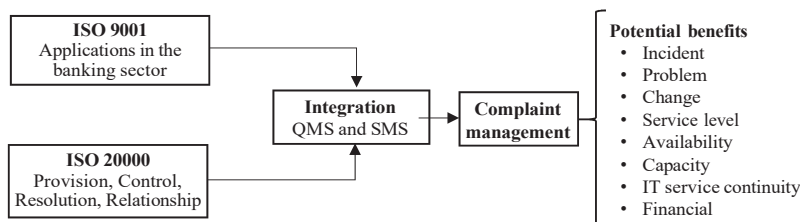
Source(s): Author's own creation

Figure 2.
Potential benefits of integrating QMS and SMS

continuous improvement, both facilitation and apology are critical concepts for banks to improve organizational learning and performance (von Janda *et al.*, 2021).

Table 13 summarizes the potential improvements in complaint management when the most critical and types of banks are taken into account.

Going beyond the main complaint categories identified by the GRA, the management guidelines proposed by ISO 9001 and ISO 20000 can generate potential benefits for enhancing complaint management performance in three perspectives: financial management, change management and service level management.

In the first perspective, Mbama and Ezepue (2018) observed that evaluating technology-based solutions regarding effective costs, financial resources allocation and the return over investment (ROI) can improve banks' complaint management performance. Davidow (2003) states that banks should consider the benefits that a customer should receive from the organization in response to the complaint (redress). In this matter, Gelbrich and Roschk (2011) argued that both financial and psychological compensation should be taken into account.

Regarding change management, Cots *et al.* (2016) and Khanboubi and Boulmakoul (2019) stated that it is a key factor for making sure changes are quick, easy, consistent and authorized. This is consistent with the findings of this study regarding "unauthorized charges", which was ranked as the most critical category for both traditional and digital banks.

In the third perspective, service level management, Cots and Casadesŭs (2015) and Hosseini and Keshavarz (2017) mentioned that should enhance practices and procedures to make agreements between the clients and the organization concerning the type and quality of the services being offered. Davidow (2003) added that service level management is fundamental for enhancing attentiveness. According to Karatepe (2006), this means improving the interaction between the organizational representative and the customer by promoting respect, politeness, empathy and willingness to listen.

6. Conclusion

Complaint management is recognized as an important factor in the banking sector, and its importance has grown as a result of the extensive use of technology and innovation in banking services, as well as the rise of digital banks. This paper investigated in nine categories of complaints considering Brazilian traditional and digital banks, revealing several ways that managers can improve complaint management performance. This is particularly important considering that Brazilian traditional banks are undergoing a rigorous process of closing physical branches and strengthening digital channels in order to achieve a better balance of physical and digital services.

This study adopted a methodological approach to include the uncertainty involved in the data used as a basis for the analysis. This is important as it enabled to take customers' perception and subjectivity inherent to complaints into account when analyzing different types of banks.

It became clear that independent of their business model, banks have a lot of room for improvement in order to retain current customers and gain new market share. This study contributed to the field of complaint management in this matter by identifying the most critical complaint categories in traditional and digital banks. In this regard, complaints related to "unauthorized charges" and "poor services" should receive particular attention as they were ranked in the highest position in both traditional and digital banking rankings.

The value of this study is also on the identification of several insights to improve complaint management performance based on quality and service management systems practices established from internationally recognized standards (ISO 9001 and ISO 20000). Managers from traditional and digital banks can improve complaint management

performance by applying concepts related to problem management, availability management and IT service continuity. If the differences between the types of banks are considered, traditional banks should enhance incident management practices, whereas digital banks should focus more on capacity management.

The findings highlight the need for more effective consumer protection policies and management practices to prevent unauthorized charges and poor service. These types of complaints reflect situations that many people face on a daily basis, and which, if not addressed promptly, can result in a wide range of material and moral harm. It is important to note in this regard that organizations may view complaints solely as issues that need to be resolved, or they may view them as opportunities to learn and improve internal processes (von Janda *et al.*, 2021). Regarding the social implications of this study, it should be noted that enhancing banking services is an important factor for developing countries such as Brazil.

Although the most relevant traditional and digital banks in Brazil were included in this study, it is important to note that the findings were based on a limited sample. Furthermore, other bank characteristics other than their general type of business model, such as firm size, were not taken into account in this study. More research is needed to determine the effect of these variables on the frequency of complaint categories observed. Another limitation is that the data collected refers to customers' complaints, which is intrinsically influenced by their perception and subjectivity.

Future research may expand the number of organizations studied and use additional data sources. Another possible research direction is to apply the literature's recommendations on the application of management standards for quality (Pattanayak *et al.*, 2017; Pattanayak and Punyatoya, 2015) and information technology services (Cots and Casadesús, 2015; Vanaki *et al.*, 2017). Finally, the GRA can be combined with other methods that have been used to investigate customer satisfaction in banks, such as fuzzy DEMATEL (Dincer, 2019) and analytic hierarchy process (Dincer and Hacioglu, 2013), resulting in more robust methodological approaches.

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