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THE CHALLENGES OF IMPLEMENTING ONLINE BANKING IN THE IRAQ BANKING INDUSTRY

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Abstract
The aim of this study is to identify the challenges of implementing online banking in Iraq. The methodology employed is qualitative research, utilizing grounded theory. Data collection was conducted through unstructured and semi-structured interviews with experts from both academia and the banking industry in Iraq. In this approach, codes were extracted using MAXQDA software, resulting in a total of 170 codes, 105 concepts, and 10 categories, which were further grouped into 5 overarching thematic categories.
The findings reveal that the causal conditions affecting online banking challenges in Iraq include four categories: legal and regulatory barriers, infrastructural obstacles and weaknesses in technology infrastructure, organizational reluctance to cooperate with external partners (and vice versa), and a lack of innovative digital business ideas. The contextual conditions encompass three categories: lack of human resource alignment, cultural barriers, and educational obstacles. Intervening conditions comprise two categories: absence of a clear strategic vision and goal in the domain of digital banking, and the lack of active, dynamic, and flexible organizational structures.
Furthermore, the strategies for implementing online banking involve three categories: strengthening and upgrading infrastructures, generating and presenting innovative online banking knowledge, and strategic digital management. Lastly, the consequences of failing to implement online banking in Iraq include six categories: unmet customer needs, decreased market share, inadequate analysis of customer behavior, failure to provide integrated services, reduced revenues, and increased costs.
Keywords: Online Banking, digital Banking, Grounded Theory

1. INTRODUCTION

Rapid technological advancements over the past few decades have fundamentally transformed the way people live and work (Sardana & Singhania, 2018). The development of the Internet and mobile phones has profoundly altered consumer habits and preferences, prompting individuals to increasingly use digital media to share personal information, communicate with companies, engage in online shopping, and utilize new internet-based services (Alalwan et al., 2018).
Among these advancements, digital transformation stands out as particularly significant. In the financial sector, digital transformation has led to the digitization of business models and processes, giving rise to new products and services. Today, digital channels are not merely alternative or cost-effective means of customer interaction; they command a substantial and growing share of retail customer business worldwide. The term "FinTech" refers to various high-tech startup services characterized by innovative and digital business models (Alnemer, 2022). The proliferation of mobile and internet technologies, along with global expansion, has facilitated the development of new forms of banking and financial payments. Digital payments and online banking have emerged as novel methods for conducting financial transactions efficiently and conveniently (Pelau et al., 2021).

Digital payments encompass any type of payment made using digital tools, including mobile payments, mobile wallets, cryptocurrencies, and electronic payments. Online banking refers to the use of technology to conduct banking transactions seamlessly (Aakko & Niinimäki, 2022). Online banking is not merely a banking product or service; it is a fundamental concept within the banking system. PricewaterhouseCoopers defines online banking as a new paradigm aimed at enhancing standard online and mobile banking services through the application of digital technologies (Orehovački et al., 2022).

Online banking should not be conflated with online banking, as it does not imply the elimination of physical branches. Rather, it emphasizes advisory services over transactional services within banks (Sullivan et al., 2016). Numerous examples illustrate the rapid and comprehensive shift to new methods of purchasing goods and services following the availability of online and digital technologies (Mahajan et al., 2021). While such transformations have occurred in industries like digital photography and travel services, traditional banking interactions continue to hold a significant share of transactions despite unconventional banking channels—such as telephone banking—being in use for over a decade (Sudirjo et al., 2024).

The transition to online banks and the implementation of online banking bring several benefits, including reduced operational costs. This reduction subsequently lowers the costs of products and services across other economic sectors, thereby enhancing overall productivity. Additionally, given the economic conditions and the necessity for increased profitability and efficiency across various sectors, banks are compelled to improve asset management strategies.

Moreover, with the emergence of new technologies, banking models are evolving, and new business ventures are forming, capturing a significant share of the financial market. Given these developments, the future advancement of banks can occur in two ways: (1) through mergers and strategic partnerships, or (2) through innovative investments. In either scenario, traditional banks will either be transformed beyond recognition or reinvent themselves entirely.

It can be asserted that the establishment of online banking represents a process inherently shaped by the unique characteristics of the banking industry. A common misconception is to equate online banking solely with the electronic delivery of services, whereas it actually signifies a digital transformation of banking business models, wherein fee-based and non-interest income replace traditional interest income.

Considering the imperative to establish online banking in Iraq in the near future and the competitive advantages it offers, identifying the challenges associated with its implementation is of paramount importance. Therefore, the present study aims to identify the challenges of online banking implementation from the perspective of banking industry experts in Iraq.

2. THEORETICAL FRAMEWORK

Online banking can be succinctly defined as the delivery of appropriate services and products that are customized and personalized in real-time through integrated and suitable channels or tools. In this form of banking, services are provided based on advanced analytics and customer data (Sasono et al., 2021).

According to this definition, traditional banks that rely on physical branches are evolving towards online banking by transitioning through electronic banking to become intelligent multichannel banks, attractive social banks, and digital financial ecosystems.

2.1. Advantages of Online Banking

Blockchain Online banking offers a variety of benefits. Financial institutions with a better understanding of their customers and their needs can create unique customer experiences, recommend new products and services, and thereby enhance customer retention. These advancements facilitate the adoption of online banking services, improve the efficiency of financial institutions, and attract new customers, particularly among the younger demographic (Sas, 2015).

Consumers today have numerous options when choosing financial service providers; therefore, if providers fail to meet consumer needs through preferred channels, they risk losing their customers. Service providers must invest in emerging technologies to keep pace with changing consumer behavior through innovation and maintain continuous engagement with their customers (Lee & Chen, 2022).

By implementing a customer experience strategy, banks can address website issues that, if left unresolved, would negatively affect customer satisfaction, thereby sustaining competitiveness in a saturated market. By delivering an almost flawless customer experience, financial service companies can achieve a competitive advantage. Many leading financial service firms today focus on customer experience management. Demand for online banking continues to grow steadily, with more customers relying on smartphones to manage their finances. Banks and other financial companies strive to ensure that customer transactions are seamless and that full alignment exists across all service delivery channels (Franz et al., 2017).

Banks can potentially leverage online banking as an innovative approach to gaining market share. Online banking also presents opportunities for companies outside the financial sector to offer services that were previously limited to traditional banking products (Barquin & Yip, 2016).

From multiple perspectives, the benefits of online banking and its implementation can be examined. On one hand, there are revenue benefits stemming from new income opportunities generated by analyzing customer needs. On the other hand, cost savings arise from reduced technical infrastructure expenses and improved risk assessment and credit evaluation through modern tools, which decrease the likelihood of loan defaults and arrears (Dwivedi et al., 2021). Figure 1 illustrates the impacts and benefits of online banking.

Table 1 – Benefits of online Banking

Category	Subcategory	Description
Revenue Effects	Increased Adaptive Sales	Enhanced customer engagement and improved sales interactions driven by advanced analytics.
	Increased Balance from Cash Replacement	Elevated account balances facilitated by the adoption of digital payment methods.
	Transaction Charges & Fees	Revenue generated from online payments, mobile wallets, and other digital transactions.
Cost Effects	Salesforce Productivity	Greater salesforce efficiency achieved through reduced reliance on human resources for customer acquisition.
	Lean Branch	Decreased operational workload in branches, particularly in cash and check handling.
	Lean Back-Office	Enhanced automation, streamlined end-to-end processing, and operational efficiency improvements.
	Efficient Execution	Increased overall corporate productivity and performance.
	Infrastructure & Transaction Charges	Lower capital expenditures (CAPEX), reduction in ATMs, and diminished variable transaction costs.
Data Provision Effects	Reduced NPA (Non-Performing Assets)	Utilization of advanced analytics for improved credit risk assessment in SME and retail sectors.

2.2. Evolution and Generations of online Banking

It must be noted that the traditional and old-fashioned banking methods no longer adequately meet the evolving needs of modern customers and contemporary businesses. Generally, two main categories of factors have significantly influenced these changes:

The first factor relates to business transformations, where sometimes financial-oriented businesses emerge that can partly substitute traditional banks. This phenomenon compels banks to align themselves with these businesses and continuously update their operations to avoid falling behind.

The second factor involves technological advancements. The emergence of innovations such as robotics, blockchain, and other modern technologies has had—and continues to have—a profound impact on the banking industry (Rahi et al., 2021).

Table 2 – Evolution and Generations of Online Banking

Generation	Description
Online banking Generation 1	- Electronic banking: Information systems for managing banking processes. - Creation of the first electronic channels (e.g., online banking). - Replacement of branch systems with information technology infrastructure.
Online banking Generation 2	(Leveling up) - Adding more digital channels (e.g., mobile phone banking). - Developing digital products and services, especially e-payments and online gateways. - Replacing legacy systems with more centralized banking information systems.
Online banking Generation 3	- Safe multichannel banking experience. - Distinctive customer experience for digital-only banks in P2P and B2C markets. - Digital penetration reaching 85% of banking transactions (meaning most customers perform banking via digital channels). - Providing an integrated, comprehensive experience for customers through tailored offers and personalized digital services.
Online banking Generation 4 (Fully Digitized Banking)	- Customer-centric focus with personalized, differentiated solutions, especially in P2P and B2C markets. - Providing advanced predictive analytics using AI and machine learning to minimize customer concerns. - Enhanced security with traceability and blockchain solutions.

Generation	Description
	- Shifting banks to financial service platforms offering a wide variety of personalized services (e.g., financial hubs). - Platform-based banking enabling open access and integration with other systems.

Ecosystem and Pillars of online Banking

The key components of online banking are outlined in the modern banking ecosystem model developed by IBM in 2011. A hallmark of this model is its comprehensive perspective on the online banking ecosystem. The ecosystem is structured around five principal layers: data, core activities, enablers (capabilities), infrastructure, and finally tools and products.

Core of the Model:

At the heart of this ecosystem lies data. The foundation for creating an effective ecosystem, aligned with the realities of the digital age, rests on the accessibility, management capability, and utilization of diverse and extensive datasets in the banking domain. All other layers of the ecosystem are designed and implemented based on this data foundation.

Layer of Core Activities in online Banking:

Given that resource mobilization, resource allocation, transaction processing, and advisory services constitute the fundamental activities of banking businesses, these same functions must be prioritized in the online banking sphere. Online banking must strategically design and execute programs aligned with these core functions while delivering the expected value to customers. It is evident that in digital banking, these activities will differ fundamentally from traditional methods.

Layer of Enablers (Capabilities) in online Banking:

This layer encompasses key capabilities such as data analytics, innovation, risk management, agility, collaboration, participation, and digitalization. These capabilities are essential components in establishing and sustaining a robust online banking ecosystem.

Infrastructure Layer in online Banking:

To effectively advance the strategies related to core online banking activities, key resources must be leveraged. Human capital, technology, processes, and organizational structure constitute the foundational elements of this layer.

Layer of Tools, Services, and Products in online Banking:

Provided the successful implementation of the underlying layers, this layer unlocks a multitude of value-creating opportunities for online banking. It encompasses tools, channels, communications, products, and other elements, wherein value creation within the online banking ecosystem is actualized (IBM, 2011).

Moreover, the critical pillars and components that should be considered within the framework of fourth-generation online banking are classified into two categories: infrastructural pillars and core pillars of the online bank. This framework includes the following core pillars(Wilson et al., 2021) :

- Social Media Banking
- Smart Banking
- Open Banking
- Modular Banking
- Omni-Channel Banking
- Blockchain-Based Banking

These pillars are supported by infrastructural elements such as:

- Digital Adoption and Readiness
- Digital Culture
- Customer Experience
- Capabilities and Technologies
- Human Capital
- Regulation and Compliance

The overarching governance and strategic framework is embodied in the **Digital Strategy**.

Omni-Channel Banking:

Omni-channel banking ensures seamless and consistent customer engagement across all channels, at any time and place. The product offering is customized based on customer behaviors and preferences (Kitsios et al., 2021).

Modular Banking:

Modular banking architecture comprises distinct, reusable modules across business units, services, systems, and platforms (similar to Lego blocks), significantly enhancing agility and accelerating the implementation of changes.

Social Media Banking:

Social media banking leverages social networks as effective platforms for marketing and promoting a diverse range of banking products and services. This environment enables banks to align with contemporary business models and, through extensive customer data collection and analysis, offer tailored services and products (Akoglu & Özbek, 2022).

Open Banking:
With explicit customer consent, open banking allows the sharing of banking data among members of the banking ecosystem. This introduces both opportunities and risks for banks. Through data sharing, banks transition from traditional banking management to ecosystem management (Kitsios et al., 2021).

Smart and Cognitive Banking:
Smart banking originated from the development of big data infrastructures that integrate, collect, and extract both structured and unstructured customer data. This process involves advanced analytics and artificial intelligence (AI). Employing AI algorithms and system maturity, smart banking evolves into cognitive banking with learning capabilities, representing the next generation of advanced analytics (Rahman et al., 2021).

Blockchain-Based Banking:
Blockchain technology, as the first distributed ledger platform, enables value exchange (including any asset with financial or non-financial significance, such as information) over the internet. Before the advent of digital and cryptographic currencies, value transfer and exchange without intermediaries like financial institutions, regulatory bodies, or governments were not feasible. Blockchain facilitates value transfer without intermediaries, employing cryptographic techniques and shared databases that allow simultaneous access to multiple synchronized, immutable digital ledgers (Rahmayati, 2021).

2.3. Online banking Strategies

Based on extensive studies and research, as well as the models proposed by Kodhalo, Etkerni, Deloitte, Gartner, and McKinsey, five key strategies can be identified:

1. Open Innovation Strategy:
Bank leaders must foster a culture of innovation. Banks typically employ a combination of internal programs and investments in startups to stimulate innovation within the organization. In large organizations, open innovation involves leveraging external technology solutions, opening intellectual property channels, and identifying new growth areas as part of their strategic agenda (Schueffel & Vadana, 2015). Collaborating with startups is increasingly gaining traction. The innovation lab model attracts many banks toward assisting startups to enhance their business performance (Chauhan et al., 2022).

2. Data and Analytics Strategy:
Data and its analysis are central to online banking. Effective data management and leveraging data for customer relationship management (CRM) and developing personalized products tailored to customer needs constitute the primary strategy for leading online banks (Sun et al., 2014).

3. Digitizing Processes and Agile Infrastructure Strategy:
Transitioning to online banking necessitates fundamental changes in the organizational support and middle structures. Simplifying and making processes agile, along with digitizing paper-based organizational workflows, is crucial. System integration is a foundational issue in developing digital banking. Service-oriented architecture (SOA) is the key to rapid development in the digital world (Falato et al., 2013).

4. Social Media Strategy:
The growth of social media over the past decade has been remarkable, profoundly impacting business dimensions. Many companies have established social media accounts and launched campaigns in this space. Content creation, complaint management, financial consultation and guidance, and payment services delivered via social media platforms are among the initiatives undertaken by banks (Lee et al., 2013).

5. Mobile Application Strategy:
The widespread adoption of smartphones globally and the development of mobile operating system-based programming have led to the production of versatile mobile applications, which have been well received by the banking industry. Numerous banking innovations have emerged in this area, with a variety of banking services and complementary financial value chain services now accessible via mobile phones (Dutta et al., 2015).

2.4. LITERATURE REVIEW

This section is dedicated to the research background related to digital banking. Chan et al. (2022), employing Schwartz's scenario planning method, proposed four distinct scenarios for online banking services by 2022: first, the "Technological Governance" scenario, wherein the development of digital technology software leads to a seamless experience within the bioeconomy and banking sectors, transforming banks into agile institutions offering national digital services; second, the "Technological Enthusiasm" scenario, where society and customers embrace a digital lifestyle, resulting in a continuous increase in demand for online banking services; third, the "Technological Tragedy" scenario, in which society and customers adopt a restrictive stance towards the expansion of digital services; and fourth, the "Technological Conservatism" scenario, where the digital lifestyle does not materialize, yet banks continue to develop their digital structural capacities.

Similarly, Wang et al. (2023) combined Interpretive Structural Modeling (ISM) and fuzzy DEMATEL methods to investigate strategic indicators for online banking implementation. Their findings revealed that "business process

strategy" forms the foundation for online banking execution, while "content strategy" exhibits the highest interaction and dependency with other indicators. On the other hand, Alzoubi and Ghazal (2022) examined the development process of fintech startups in Iraq using grounded theory, identifying significant barriers such as macro-political and economic conditions—particularly sanctions—unclear strategies, and regulatory challenges as primary obstacles to the growth of these startups.

Chen et al. (2021), in their article, proposed innovative strategies based on digital technologies for the banking industry, which were evaluated through the Delphi method. Mobile banking was introduced as a more cost-effective and preferred solution by experts. Mogaji et al. (2021), in their study titled "Strategies for Developing E-Businesses within the Framework of Facilitating and Improving the Business Environment," extracted and formulated development strategies related to information technology businesses and presented a novel model based on the electronic readiness framework. Additionally, Zhang et al. (2022) identified key strategic components for the successful implementation of the online banking model through structural equation modeling, outlining a roadmap for this field.

Tien et al. (2021), in their study "Digital Banking; Revolution in the Banking Industry," emphasized that digital transformation focuses more on customers, business, and processes rather than technology alone, highlighting digital culture as a fundamental factor in the transition from traditional to digital banking. In this context, Alnemer (2022) addressed the challenges of the electronic banking business model in Iraq and proposed a conceptual model comprising seven main challenges, including the lack of a digital vision, insufficient senior management support, inadequate human capital, outdated IT infrastructure, legal and jurisprudential issues, and low digital culture maturity.

Koskelainen et al. (2023) underscored the importance of developing winning strategies to leverage digital technologies for designing digital organizations, while Mamakou et al. (2017) identified customer-centric key factors in online banking such as accountability, credibility, and access to up-to-date systems. Furthermore, Ariffin et al. (2022) provided a framework for identifying and improving innovation in digital products and services, demonstrating the critical role of digital technology in achieving business objectives and enhancing innovation capacity. Rahi et al. (2021), focusing on customer experience in digital banking, concluded that customer satisfaction is the primary driver of organizational goals in this transformation.

Despite the volume of research, the topic of "challenges in implementing online banking," particularly in domestic studies, has received limited attention. Accordingly, this study aims to develop a comprehensive model of online banking challenges in Iraq, which could be highly beneficial for senior banking managers in improving service quality, fostering economic development, gaining competitive advantage, and attracting investor trust. Moreover, identifying barriers to online banking adoption can lead to cost reduction and revenue enhancement through diverse channels, thereby facilitating unprecedented transformation within Iraq's banking system.

3. RESEARCH METHODOLOGY

Given that the findings of this research are applicable and useful for policymakers in the banking industry, the purpose of the study is applied in nature. In terms of methodology, it is a qualitative study with an inductive approach. Furthermore, the research is field-based in terms of data collection location and adopts an interpretivist philosophical paradigm.

The statistical population of this study includes experts in banking and information technology, encompassing high-level policymakers, bankers, relevant research institutions, and university faculty members. The sampling method was purposive (judgmental) and non-random. The selection criteria for interviewees included substantial professional experience in the field and relevant expertise in banking. Additionally, efforts were made to ensure that key stakeholders from across the banking industry were represented in the sample. The sample size was determined based on theoretical saturation, which was achieved after conducting 11 expert interviews.

Data collection was carried out through semi-structured and structured interviews. The data obtained were analyzed using the Grounded Theory methodology.

Historically, the Grounded Theory approach was introduced in 1967 by sociologists Glaser and Strauss. It is an inductive methodology for theory generation, enabling the researcher to develop a theoretical account of the general features of a phenomenon while firmly grounding it in empirical observations (Alzoubi & Ghazal, 2022).

In Grounded Theory, three elements play a critical role: codes, concepts, and categories. The methodology seeks to transform raw data obtained through interviews and other sources into initial codes, group similar codes into concepts, and then develop these concepts into broader categories. Ultimately, theoretical constructs are derived from these categories.

3.1. Implementation of the Research Method

The data obtained from interviews conducted with experts in the banking industry were analyzed using the systematic approach of grounded theory. The aim of this analysis was to ultimately develop a process model of the challenges in implementing online banking in Iraq.

The The data obtained from interviews with industry experts in the banking sector were analyzed based on the systematic approach of grounded theory to ultimately derive the process model for the challenges of implementing online banking in Iraq. To extract the codes, concepts, and categories, the MAXQDA software was used.

After conducting the interviews and completing the process, the interview texts were systematically examined to identify categories, characteristics, and the main dimensions of these categories. In the first stage, propositions (dimensions of characteristics) were extracted from the interview texts. Then, the data were analyzed at the sentence and phrase level, and sub-categories were identified. In other words, after extracting the propositions through categories, sub-categories were developed. Subsequently, the primary categories were extracted from the sub-categories and temporarily labeled. Each primary category included several sub-categories, all derived from the propositions extracted from the interviews.

The central unit of analysis for open coding was the concepts or propositions. Coding was either directly based on the interview transcripts or done according to specific items. Finally, the interview texts were further reviewed, and the data were analyzed with greater precision until a reasonable level of saturation was reached. For the main categories, their characteristic dimensions were repeatedly reviewed. The boundaries of each category and its dimensions were not definitively determined at the beginning of the analysis, and these categories were refined throughout the process. In total, 170 codes, 50 concepts, and 10 categories were identified across 5 broader category groups.

Category Extraction Process

The process of extracting categories occurred in three stages:

1. **Open Coding**: The first stage, known as open coding, involves the breakdown and classification of data and categories. According to Strauss and Corbin, this stage includes carefully examining and categorizing the data related to the phenomenon under study. The result of this categorization is the creation of concepts, which serve as the building blocks of the grounded theory. In this stage, the data were documented by transforming observations and interview content into textual form, and they were separated sentence by sentence. Repeated phrases were eliminated, and raw data were generated through line-by-line analysis.
2. **Axial Coding**: The second stage is axial coding, which is used to identify relationships between categories and sub-categories. In this stage, the data are reassembled in a new way, and as Strauss and Corbin describe, it involves connecting categories to sub-categories. Axial coding is carried out using a paradigm that includes causal conditions, contextual conditions, intervening conditions, strategies, and consequences.
3. **Selective Coding**: Strauss and Corbin define selective coding as the process of systematically selecting the main category, linking it to other categories, validating relationships, and filling gaps with categories that need further development and expansion. This phase is similar to axial coding, but it occurs at a higher, more abstract level.

In this study, a total of 170 codes were extracted through the aforementioned processes.

4. Research Findings

The codes and categories were organized into five groups: causal conditions, contextual conditions, intervening conditions, strategies, and consequences

Causal Conditions

In grounded theory, causal conditions refer to the reasons behind and the manner in which subjects react to a specific phenomenon. In this study, causal conditions refer to the set of positive and contributory factors, as well as the challenges hindering the development of online banking, as perceived by the subjects.

Table3: Concepts and Categories Identified Related to Causal Conditions

General Category	Category	Concepts
Causal Conditions	Legal and Regulatory Barriers	Authentication, electronic signature, data security concerns, privacy preservation, protection of customer data, lack of upper-level regulations for data sharing and privacy policies, challenges with weak cybersecurity, fraud and identity theft, money laundering concerns such as transaction limits.
	Infrastructure Barriers	Readiness of the integrated banking system, lack of necessary infrastructure to store and analyze data accessible by other ecosystem actors, unwillingness of organizations to collaborate with external partners, inadequate cooperation between banks and contractors to implement technical infrastructure.
	Lack of Innovation in Digital Business Models	Lack of adoption of modern methods of data production and collection, absence of innovative digital business models (such as designing value-creating business models for customers of electronic banking products and services), failure to share knowledge and creatively meet customer needs.

As seen in Table 3, the causal conditions for the failure of online banking implementation can be categorized into four main groups:

1. **Legal and Regulatory Barriers**: This category primarily includes obstacles related to privacy issues, authentication, electronic signatures, lack of cybersecurity, and absence of upper-level regulations for managing private data.
2. **Infrastructure Barriers and Weaknesses in Technological Infrastructure**: This includes deficiencies such as the lack of readiness of integrated banking systems and the absence of necessary infrastructure for storing and analyzing data that could be shared with other stakeholders in the ecosystem.
3. **Lack of Organizational Willingness to Collaborate with External Partners**: Many times, contractors and other external parties do not collaborate adequately with banks in the implementation of technical infrastructure, making it difficult to progress.
4. **Failure to Offer Innovative online Business Models**: This category includes issues like the lack of modern methods for producing and collecting data, the absence of digital business models that add value for customers of electronic banking services, and the failure to share knowledge or creatively address the needs of customers.

These barriers significantly hinder the establishment of online banking in Iraq and are crucial points of focus for improving the adoption and success of such innovations.

Contextual Conditions

Contextual conditions refer to a specific set of circumstances that arise in a particular time and place, creating an environment in which individuals or groups respond through actions and interactions. These conditions are grounded in causal factors and influenced by how these factors are integrated to form diverse patterns with various dimensions.

Table 4: Concepts and Categories Identified Related to Contextual Conditions

General Category	Category	Concepts
Contextual Conditions	Human Resources	Resistance of banking personnel to change, the shift from branch-centered to digital service-oriented banking.
	Cultural Conditions	Branch-centered mentality among the public rather than a digital-first mindset, digital culture (lack of risk-taking, siloed thinking, failure to share knowledge, and creatively meeting customer needs), fear of job loss due to the growth of online banking, weak commission-based business models in the Iraqian banking sector.
	Educational Issues	Insufficient training of banking personnel, lack of familiarity and use of updated banking technologies among the public.

As shown in Table 4, the contextual conditions contributing to the failure of online banking adoption can be divided into three main categories:

1. **Human Resource Resistance**: The first category relates to the resistance of banking personnel to change. Specifically, the reluctance of bank employees to move away from the traditional branch-centered model toward a digital service-oriented approach has prevented banks from making significant progress in digital transformation.
2. **Cultural Barriers**: The second category pertains to cultural obstacles, which can be divided into two sub-categories—one related to the public's view and the other to banking institutions themselves. From the public's perspective, the mentality of branch-centered banking persists, and people are not yet familiar with the online-first banking model. On the other hand, bank managers are hesitant to close physical branches due to the fear of job loss associated with the spread of online banking. Additionally, the lack of a robust commission-based business model in Iraq's banking sector has made it difficult for banks to move toward digitalization.
3. **Educational Barriers**: The third category refers to education-related issues, which also can be split into two aspects—one concerning the public and the other related to banking personnel. Both banking staff and the general public lack sufficient knowledge and training in online banking concepts, as well as familiarity with modern technologies used in online banking services.

These contextual barriers highlight key challenges in the widespread adoption of online banking in Iraq, underscoring the need for systemic change across human resources, cultural attitudes, and education to enable successful digital transformation in the banking sector.

Intervening and Mediating Conditions

Intervening and mediating conditions refer to situations that influence the adoption of strategies, actions, and interactions. In other words, these conditions relate to factors or elements, whether favorable or unfavorable, that either slow down or accelerate the effects of one or more change factors.

Table5: Concepts and Categories Identified Related to Intervening and Mediating Conditions

General Category	Category	Concepts
Intervening and Mediating Conditions	Lack of Clear Strategic Vision in online Banking	Lack of clear and specific goal-setting, regulatory challenges (obtaining licenses and adhering to laws), absence of a development plan for digital business models.
	Lack of Active, Dynamic, and Flexible Organizational Structures	Changes in the bank's organizational architecture (structures, processes, decision-making procedures, resource allocation logic, etc.), banks' focus on account opening and resource mobilization rather than the sale of banking services.

As shown in Table 5, the intervening conditions that hinder the development of online banking in Iraq, and at the same time limit the adoption of strategies, can be divided into two main categories:

1. **Lack of Clear Strategic Vision in online Banking**: This category includes the absence of clear and specific goal-setting, regulatory challenges (such as obtaining licenses and complying with legal requirements), and the lack of a robust plan for developing digital business models.
2. **Lack of Active, Dynamic, and Flexible Organizational Structures**: This category focuses on the need for changes in the organizational architecture of banks, including structures, processes, decision-making procedures, and resource allocation logic. Banks must shift their focus from simply opening accounts and mobilizing resources to providing banking services and embracing a commission-based model.

These intervening conditions present significant barriers to the implementation of online banking and restrict banks' ability to adopt and implement effective strategies for digital transformation. Addressing these structural and strategic challenges is essential for the successful integration of online banking in the Iraqian banking sector.

Strategies

Strategy is the method and mechanism used to address a phenomenon. In the pursuit of a phenomenon, actors devise measures and adopt strategies based on available resources and circumstances. Strauss and Corbin define strategy as how individuals manage issues. In other words, a strategy consists of goal-oriented actions aimed at solving a problem, and when these actions are realized, the phenomenon is achieved. In Strauss and Corbin's theory, both the intervening conditions and the mediating conditions are linked to strategies and are focused on activities and plans that lead to the realization and formation of the phenomenon.

Table 6: Concepts and Categories Identified Related to Strategies

General Category	Category	Concepts
Strategies	Strengthening and Enhancing Infrastructure	Enhancement of organizational education and culture, improvement of technological capabilities, strengthening cybersecurity issues, focus on privacy protection, update and comprehensiveness of online banking laws, transformation of the integrated banking system.
	Creation and Presentation of Innovative Online banking Ideas	Identification and fulfillment of changing customer needs, customer relationship management in online banking, creation of ecosystems and offering new products, selection of appropriate research centers for future collaborations with banks.
	Strategic Digital Management	Senior management's support and allocation of necessary resources for online banking, development of a digital vision in the minds of managers to create a business model transformation, changing the roles of branches with an emphasis on their important position in the future, process reform and management of banking operations.

In this study, several strategies were emphasized for achieving online banking, which are listed in Table 6 and grouped into three categories:

1. **Strengthening and Enhancing Infrastructure**: This category includes initiatives such as enhancing organizational education and culture, improving technological capabilities, strengthening cybersecurity and ensuring privacy protection, updating and expanding online banking laws, and transforming the integrated banking system.
2. **Creation and Presentation of Innovative Online banking Ideas**: This category highlights creativity and innovation and includes strategies like customer relationship management in online banking, identifying and

addressing changing customer needs, creating ecosystems, offering new products, and selecting appropriate research centers for future collaborations with banks.

3. **Strategic Digital Management**: This category is primarily concerned with the design of digital visions and goal-setting. It includes actions like reforming and managing banking processes, senior management's support and allocation of resources for digital banking, developing a digital vision in managers' minds to drive business model change, and redefining branch roles with an emphasis on their significance in the future.

These strategies focus on various aspects of digital transformation, including infrastructure development, innovation, and strategic management to pave the way for successful online banking integration.

Consequences

The final term in the paradigm model of Strauss and Corbin is "consequences." Whenever an action is taken (or not taken), or a specific interaction occurs in response to an issue or in order to manage or preserve a situation, consequences arise.

Table 6: Concepts and Categories Identified Related to Consequences

General Category	Category	Concepts
Consequences	Unmet Customer Needs	Diverse customer preferences, multiple and varied customer needs
	Market Share Reduction	Fewer customers for traditional institutions, increased costs with the continuation of traditional banking services
	Lack of Customer Behavior Analysis	Need for diverse financial histories of customers, variety of individual assets, and issues in credit scoring
	Failure to Provide Integrated Services	Diversity of electronic services, need to service customers through multiple channels
	Revenue Decline	Falling behind global technological and digital transformations, failure to open new markets, losing customers over time, decreasing online payments, mobile wallet usage, online sales, reduced account balances for supporting digital payments, increasing population and inability of the current banking system to meet future demands
	Increased Costs	Decreased labor productivity, increased workload for branch services, higher number of employees

Consequences of Failure to Implement online Banking:

As noted in Table 6, the consequences of not implementing online banking in Iraq can be divided into six categories:

1. **Unmet Customer Needs**: This category includes diverse customer preferences and the multiple and varied needs that have not been met due to the lack of digital services.
2. **Market Share Reduction**: Traditional institutions may experience a shrinking customer base, and costs will rise if they continue with traditional banking services rather than transitioning to digital platforms.
3. **Lack of Customer Behavior Analysis**: Without online banking systems, banks struggle with analyzing customer behavior. This leads to challenges such as insufficient financial records, asset variety, and problems with credit scoring.
4. **Failure to Provide Integrated Services**: Traditional systems lack the ability to offer a wide range of electronic services and multi-channel support for customers, resulting in lower customer satisfaction.
5. **Revenue Decline**: A failure to adopt online banking solutions means falling behind technological advancements globally. This could result in the loss of customers, a reduction in online transactions, and an inability to address the growing needs of the customer base. Moreover, this trend hinders the expansion into new markets and stifles innovation in mobile wallets, online payments, and other digital payment methods.
6. **Increased Costs**: The failure to implement online banking can result in inefficiencies. This leads to reduced employee productivity, greater workload for branches, and higher staffing costs.

Finally, based on the research findings, the paradigm model of challenges to Internet banking banking in Iraq can be illustrated in Figure 1

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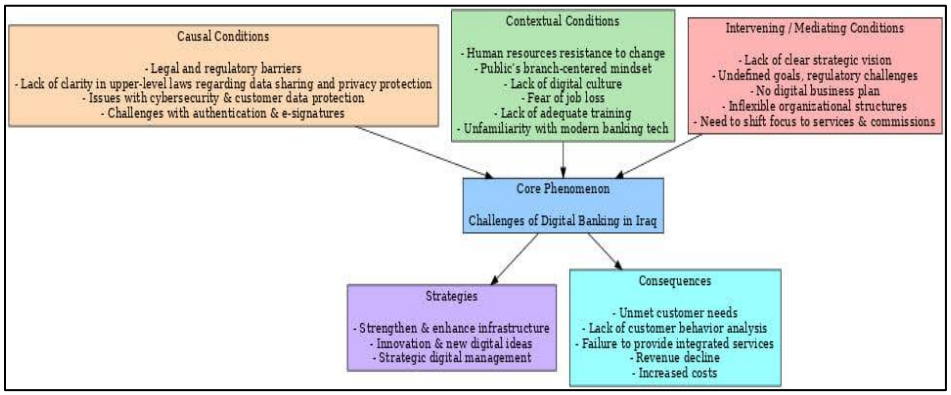

Figure 1) Paradigmatic Model of Online banking Challenges in Iraq

As observed in the model, the factors hindering the implementation of online banking in Iraq can be categorized into three groups: causal conditions, contextual conditions, and intervening conditions.

Causal conditions include issues such as legal and regulatory barriers, infrastructural obstacles and weaknesses in technological infrastructure, the organization's reluctance to cooperate with external partners, and the lack of innovative digital business ideas. The country still faces challenges in identity verification and privacy protection, and fraud continues to occur through these channels. Additionally, banks are not prepared for the implementation of integrated banking systems and lack the necessary infrastructure to store and analyze data accessible to other ecosystem actors. Furthermore, another causal condition is that banks do not utilize modern methods of data generation and collection and, in practice, lack a digital business model based on value-creating business for customers of electronic banking products and services.

Contextual conditions include factors such as lack of support from human resources, cultural barriers, and educational obstacles. In fact, employees working in banks and branches resist the transformation of banking from a traditional branch-centric model to a digital service-oriented model. Moreover, due to fears of job loss caused by the expansion of online banking, bank employees also resist these changes. Finally, the cultural context of the country is such that fee-based business models are underdeveloped in Iraq's banking industry. Regarding familiarity with digital culture, two fundamental issues exist: first, insufficient training of human resources in the banking system; second, the general public's unfamiliarity with up-to-date technologies.

Intervening conditions include the absence of a clear strategic goal and vision for online banking and the lack of active, dynamic, and flexible organizational structures. Banks lack clear and specific objectives in the digital realm and face challenges in obtaining licenses and complying with regulations. Consequently, due to the absence of vision and goals, banks also lack a defined plan for the development of digital businesses. Additionally, existing structures, processes, decision-making routines, and resource allocation logic are not aligned with online banking and lack the necessary dynamism.

Considering the above, it can be stated that causal conditions influence the failure to implement online banking both directly and indirectly by affecting contextual and intervening conditions.

Moreover, the failure to implement online banking in Iraq results in consequences such as unmet customer needs, reduced market share, lack of customer behavior analysis, failure to provide integrated services, decreased revenue, and increased costs. Since customer preferences are diverse and their needs multifaceted, the current banking system cannot accommodate this level of diversity. Additionally, as the digital economy rapidly expands, failure to implement online banking will increase traditional banking costs and reduce the customer base for banks. Given the need for customer behavior analysis, which requires diverse financial records and information on various types of personal assets, this analysis cannot be effectively conducted without online banking. Furthermore, as electronic services diversify and customers demand access through multiple channels, failure to implement online banking will prevent the realization of integrated services.

Based on the causes identified for the failure to implement online banking, strategies to facilitate online banking in Iraq consist of three components: strengthening and upgrading infrastructure, generating and presenting innovative knowledge-based online banking ideas, and strategic digital management.

In this regard, it is essential to enhance organizational education and culture through various methods such as seminars, conferences, and specialized workshops. Issues related to data privacy and security must be reinforced, and online banking regulations should be comprehensively upgraded and updated. Banks should move toward managing customer relationships and offering new products aligned with emerging ecosystems, although prerequisite to this is identifying and meeting evolving customer needs. Finally, banks and banking managers must move toward developing a digital vision, transform business models, and reform banking processes in line with the strategic vision for online banking development.

CONCLUSION AND RECOMMENDATIONS

According to the study results, the most significant challenges facing online banking in Iraq relate to legal and regulatory barriers, technological infrastructure weaknesses, and educational-cultural obstacles. Corresponding policies and measures should be designed to address each of these challenges. The most critical strategy is strengthening and upgrading technological infrastructure, which should be prioritized by the Central Bank. Additionally, banks and financial institutions should focus on generating innovative ideas for digital business models and place significant emphasis on human resource training.

To improve and fully implement online banking in Iraq, the following practical strategies are proposed, derived from expert opinions gathered during interviews:

The first recommendation emphasizes that "trust" is the cornerstone for public familiarity with and adoption of new banking technologies. The stricter and more comprehensive the regulations in this domain, the easier it will be for banks to build customer trust and encourage technology adoption. Additionally, a national commitment led by the Central Bank and other relevant authorities is essential to provide up-to-date and necessary training.

The second recommendation urges leading banks to invest in emerging technologies, a trend already underway, including investments in fintech innovations such as blockchain, customer data analytics using artificial intelligence, mobile tools, and their integration with other customer access channels and platforms. Banks lagging behind must expedite their adoption of IT systems and pursue both vertical and horizontal integration.

The third recommendation involves redesigning the banking architecture by creating new interaction platforms such as open innovation and fully networked platforms, culminating in the digital transformation of corbanking services. This is crucial for banks and corbanking service providers to align corbanking with digital paradigms and ensure compatibility with new business environments. Transitioning to online banking does not always require fundamental overhaul; in some cases, acquiring new banking capabilities necessitates redesigning or replacing existing platforms or modules.

The fourth recommendation stresses that the future success of banks depends on building superior ecosystems rather than merely becoming larger banks. Future banking ecosystems will evolve along technical and non-technical dimensions. Technically, ecosystems will form around banking products and services, with the core value of the ecosystem centered on the particular service. For example, in credit services, the emergence of new actors, diversification in loan provision by various participants or customers themselves, innovative identity verification methods, and advanced credit scoring approaches have created new ecosystems around this service. Consequently, banks tend to relinquish their operational roles in service delivery and assume managerial roles overseeing ecosystem participants.

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