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The evolution of IT business analysis in the banking industry: Key strategies for success

Chinekwu Somtochukwu Odionu ^{1,*}, Peter Adeyemo Adepoju ², Ugochukwu Francis Ikwuanusi ³, Chima Azubuike ⁴ and Aumbur Kwaghter Sule ⁵

¹ *Independent Researcher, Texas, USA.*

² *Independent Researcher, United Kingdom.*

³ *Texas A&M University-Commerce, Texas, USA.*

⁴ *Guaranty Trust Bank (Nigeria) Limited.*

⁵ *Independent Researcher, Abuja, Nigeria.*

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Abstract

This review paper explores IT Business Analysis's (ITBA) evolution within the banking industry, highlighting its critical role in driving innovation, efficiency, and compliance in a highly regulated environment. The paper provides a historical overview of ITBA, examining its early adoption and subsequent evolution in response to technological advancements and industry demands. It also delves into current trends, including integrating modern tools and technologies and the role of ITBAs in digital transformation initiatives. Furthermore, the paper discusses ITBAs' challenges, such as managing legacy systems, ensuring regulatory compliance, and addressing cybersecurity threats while identifying emerging opportunities driven by big data, artificial intelligence, and fintech partnerships. The review concludes with a discussion of key strategies for success, emphasizing the essential skills, best practices, and future outlook for ITBAs in the banking sector. The insights provided in this paper are intended to guide ITBAs in navigating the complexities of the banking industry and leveraging technological advancements to drive business success.

Keywords: Business Analysis; Banking Industry; Digital Transformation; Regulatory Compliance; Artificial Intelligence

1 Introduction

The banking industry has undergone significant transformations over the past few decades, driven primarily by information technology (IT) advancements. At the heart of this transformation is the discipline of IT Business Analysis. This critical function bridges the gap between technology and business objectives. IT Business Analysts (ITBAs) play a pivotal role in understanding business needs, translating them into technical requirements, and ensuring that IT solutions align with the strategic goals of financial institutions. IT Business Analysis has become indispensable in the highly regulated and competitive banking sector, enabling banks to innovate, enhance customer experiences, and maintain operational efficiency (Machkour & Abriane, 2020).

In today's digital age, where banking services are increasingly delivered through online and mobile platforms, the importance of IT Business Analysis cannot be overstated. ITBAs are instrumental in designing and implementing complex IT systems that support various banking functions, including customer relationship management (CRM), risk management, fraud detection, and regulatory compliance (Zaheer, 2022). By ensuring that these systems are robust, scalable, and aligned with business objectives, ITBAs help banks meet customer expectations and stay ahead of

* Corresponding author: Chinekwu Somtochukwu Odionu

competitors. Moreover, with the growing emphasis on data analytics and artificial intelligence (AI) in banking, IT Business Analysis has evolved to encompass new skill sets, such as data analysis, process automation, and digital transformation (Eboigbe, Farayola, Olatoye, Nnabugwu, & Daraojimba, 2023).

This paper aims to explore the evolution of IT Business Analysis in the banking industry and identify key strategies for success in this ever-changing landscape. The paper is structured into five sections, starting with an introduction that provides an overview of IT Business Analysis in the banking sector, its importance in modern banking, and the study's objectives. The second section presents a historical overview of IT Business Analysis in banking, tracing its development from the early adoption of IT systems to the present day. The third section discusses current trends and practices, highlighting the tools, technologies, and methodologies shaping IT Business Analysis today. The fourth section examines the challenges and opportunities faced by IT Business Analysts in the banking industry. The final section outlines key strategies for success, focusing on the skills, competencies, and best practices necessary for effective IT Business Analysis.

2 Historical Overview of IT Business Analysis in Banking

2.1 Early Adoption of IT in Banking and the Role of Business Analysis

Information technology (IT) integration into the banking industry began in the mid-20th century, revolutionizing financial institutions' operations. The initial adoption of IT in banking was driven by the need to automate repetitive and time-consuming tasks such as bookkeeping, payroll processing, and transaction management. Though rudimentary by today's standards, these early IT systems marked the beginning of a transformative era in banking, where technology played a pivotal role in enhancing efficiency and reducing operational costs (Vanhanen, 2020). During this period, the role of IT Business Analysis was nascent but critical. Banks needed professionals to bridge the gap between business needs and technological solutions, ensuring that IT investments aligned with organizational goals. Business Analysts (BAs) emerged as key players in this context, responsible for understanding the requirements of various banking functions and translating them into technical specifications that IT teams could implement. Although the scope of their work was limited compared to today, early BAs laid the foundation for what would become a crucial function in the banking sector (Virtanen, 2021).

As banks began to rely more heavily on IT systems, the importance of IT Business Analysis grew. Early BAs had to navigate the challenges of integrating new technologies with legacy systems. This task required a deep understanding of their institutions' business processes and technical infrastructure. They were instrumental in guiding banks through the initial phases of digital transformation, ensuring that technology was used to automate existing processes and create new opportunities for growth and innovation.

2.2 Evolution of Business Analysis Methodologies in Banking

The methodologies used in IT Business Analysis have evolved significantly over the years, reflecting the increasing complexity of banking operations and the rapid pace of technological advancement. In the early stages of IT adoption, the Waterfall model was the dominant approach (Senarath, 2021). This linear and sequential methodology involved distinct phases—requirements gathering, system design, implementation, testing, and deployment—each of which had to be completed before the next could begin. While the Waterfall model was well-suited to the relatively stable and predictable environment of early banking IT projects, it had significant limitations regarding flexibility and responsiveness to change (Fagarasan, Popa, Pisla, & Cristea, 2021).

As banking systems became more complex and the need for rapid innovation grew, the limitations of the Waterfall model became increasingly apparent. In response, banks began to adopt more agile and iterative methodologies. Agile methodologies, such as Scrum and Kanban, introduced a more flexible and adaptive approach to IT Business Analysis, allowing continuous feedback and incremental improvements throughout the development process. These methodologies were particularly well-suited to the fast-paced and dynamic nature of the banking industry, where customer needs and regulatory requirements could change rapidly (Ozdenizci Kose, 2021).

The shift towards agile methodologies marked a significant evolution in IT Business Analysis. BAs had to adopt new skills and mindsets to thrive in this environment. They became more involved in all stages of the project lifecycle, working closely with IT teams, stakeholders, and end-users to ensure that the final product met the needs of the business. This collaborative and iterative approach enabled banks to deliver IT solutions more quickly and effectively, improving their ability to compete in an increasingly digital marketplace (Ozdenizci Kose, 2021; Zayat & Senvar, 2020). In addition to agile methodologies, banks have also begun to adopt other frameworks and practices, such as Lean and

Six Sigma, to enhance further the efficiency and effectiveness of their IT Business Analysis efforts. These methodologies focused on eliminating waste, optimizing processes, and improving the quality of IT solutions, enabling banks to deliver more value to their customers and stakeholders (Brühl, 2022).

2.3 Key Milestones in the Development of IT Business Analysis

The development of IT Business Analysis in the banking industry has been shaped by several key milestones, each of which has profoundly impacted the role of ITBAs and the methodologies they use. One of the earliest milestones was the introduction of Enterprise Resource Planning (ERP) systems in the 1990s. These integrated software solutions combined various business functions, such as finance, human resources, and supply chain management, into a single IT platform. Implementing ERP systems requires ITBAs to have a deep understanding of both the business processes and the technical aspects of these systems, marking a significant step forward in the evolution of their role (Al-Amin, Hossain, Islam, & Biwas, 2023; Jhurani).

The rise of online and mobile banking in the 2000s was another major milestone in the development of IT Business Analysis. As banks began to offer their services through digital channels, the need for robust, secure, and user-friendly IT systems became paramount. ITBAs played a critical role in designing and implementing these systems, ensuring that they met the business's and its customers' needs. This period also saw the emergence of new challenges, such as cybersecurity and data privacy, which required ITBAs to develop new skills and expertise.

The advent of big data, artificial intelligence (AI), and blockchain technology in the 2010s further expanded the scope of IT Business Analysis. These technologies introduced new opportunities for banks to innovate and differentiate themselves in a competitive marketplace. However, they also presented new challenges in complexity and risk management. ITBAs had to adapt to these changes by acquiring new technical skills and staying abreast of the latest developments in the field. They also had to work closely with data scientists, AI specialists, and other experts to ensure these new technologies were effectively integrated into the bank's IT systems (Brown, 2020).

More recently, the COVID-19 pandemic has acted as a catalyst for digital transformation in the banking industry, accelerating the adoption of digital channels and remote working solutions. This has further highlighted the importance of IT Business Analysis, as banks have had to rapidly adapt their IT systems to meet the changing needs of their customers and employees. ITBAs have been at the forefront of this transformation, ensuring that the necessary changes are implemented quickly and effectively while managing the associated risks and challenges.

3 Current Trends and Practices in IT Business Analysis

3.1 Modern Tools and Technologies Used in IT Business Analysis

The rapid evolution of technology has transformed IT Business Analysis in the banking industry, introducing a host of modern tools and technologies integral to an IT Business Analyst role. These tools have become essential in managing the increasingly complex and data-driven environment in which banks operate. Among the most prominent tools are Business Process Model and Notation (BPMN), Unified Modeling Language (UML), and various Business Intelligence (BI) platforms (Dhaouadi, Bousselmi, Gammoudi, Monnet, & Hammoudi, 2022).

BPMN is widely used to map out business processes in a standardized way, enabling ITBAs to visualize and analyze the flow of operations within a bank. This tool is crucial for identifying inefficiencies, redundancies, and opportunities for improvement in processes such as loan origination, customer onboarding, and fraud detection. On the other hand, UML is a versatile modeling language used to create blueprints for software systems. Using UML, ITBAs can design and communicate the structure and behavior of software applications, ensuring that they align with the bank's business requirements (Agu, Iyelolu, Idemudia, & Ijomah, 2024).

Business Intelligence platforms have also become indispensable in ITBA, providing ITBAs with the ability to collect, process, and analyze vast amounts of data. These platforms help ITBAs to generate insights into customer behavior, market trends, and operational performance, enabling data-driven decision-making. With the rise of big data, BI tools have evolved to handle more complex analyses, incorporating features such as predictive analytics, data visualization, and machine learning. This capability allows ITBAs to identify patterns and trends that would otherwise be difficult to detect, thereby supporting more informed and strategic decisions (Rajavel, Komarasamy, Meenakshisundaram, Gubiniova, & Iwendi, 2022).

In addition to these traditional tools, newer technologies such as Robotic Process Automation (RPA), artificial intelligence (AI), and blockchain are increasingly integrated into ITBA practices. RPA automates repetitive and rule-based tasks, freeing ITBAs to focus on more strategic activities. AI, particularly machine learning and natural language processing, is being leveraged to analyze unstructured data, enhance customer service through chatbots, and improve fraud detection. While still emerging, blockchain technology is being explored for its potential to increase transparency, security, and efficiency in financial transactions (Kushwaha, Kumar, & Kar, 2021).

These modern tools and technologies have significantly enhanced the capabilities of ITBAs, allowing them to perform their roles with greater precision, efficiency, and impact. However, they also require ITBAs to continuously update their skills and knowledge, as the pace of technological change in the banking industry shows no signs of slowing down.

3.2 Integration of IT Business Analysis with Other Banking Functions

IT Business Analysis is no longer a siloed function in today's banking environment. Instead, it is deeply integrated with other business areas, reflecting the growing recognition that technology and business strategy must be aligned to achieve organizational success. ITBAs now work closely with various departments, including operations, marketing, risk management, and compliance, to ensure that IT solutions address the entire organization's needs. This integration is particularly evident in the way ITBAs collaborate with operations teams. In the banking sector, operational efficiency is critical, and ITBAs play a key role in streamlining processes and reducing costs. By working with operations managers, ITBAs can identify bottlenecks and inefficiencies, design automated workflows, and implement technology solutions that improve the speed and accuracy of tasks such as transaction processing, account management, and customer service (Kedi, Ejimuda, Idemudia, & Ijomah, 2024; Nwosu, Babatunde, & Ijomah, 2024).

Marketing is another area in which ITBAs have become increasingly involved. With the rise of digital banking and the growing importance of customer experience, ITBAs collaborate with marketing teams to develop and implement technology solutions that enhance customer engagement. This includes designing customer relationship management (CRM) systems, developing personalized marketing campaigns, and leveraging data analytics to understand customer preferences and behaviors. By aligning IT solutions with marketing strategies, ITBAs help banks to attract and retain customers in a highly competitive market (Odonkor, Urefe, Agu, & Obeng, 2024; Urefe, Odonkor, Chiekezie, & Agu, 2024).

Risk management and compliance are also critical areas in which ITBAs make significant contributions. The banking industry is highly regulated, and ITBAs are crucial in ensuring IT systems comply with legal and regulatory requirements. This involves working with risk managers and compliance officers to design and implement systems that monitor and manage risks, such as credit, market, and operational risks. ITBAs also help banks comply with regulations such as the General Data Protection Regulation (GDPR) and the Payment Services Directive (PSD2), which govern data privacy and security (Obeng, Iyelolu, Akinsulire, & Idemudia, 2024; Scott, Amajuoyi, & Adeusi, 2024). The integration of ITBA with other banking functions has resulted in a more holistic approach to business analysis, where ITBAs are seen as strategic partners who contribute to the organization's overall success. This collaborative approach enables banks to implement more effective and efficient IT solutions, driving business growth and improving customer satisfaction.

3.3 Role of IT Business Analysts in Digital Transformation and Innovation

As banks continue to undergo digital transformation, the role of ITBAs has become increasingly central to driving innovation. Digital transformation involves adopting new technologies to change how banks operate and deliver customer value fundamentally. ITBAs are at the forefront of this transformation, identifying opportunities for innovation, defining business requirements, and ensuring that IT solutions align with the bank's strategic goals. One of the key areas where ITBAs are driving digital transformation is the development of digital banking platforms. With the rise of online and mobile banking, customers expect seamless, secure, and convenient access to banking services. ITBAs work closely with IT teams, product managers, and customer experience professionals to design and implement digital banking solutions that meet these expectations. This involves developing user-friendly interfaces and integrating complex backend systems that support transactions, account management, and customer service (Adewusi et al., 2024; C. P. Amajuoyi, L. K. Nwobodo, & M. D. Adegbola, 2024).

In addition to digital banking, ITBAs are implementing new technologies such as AI, machine learning, and blockchain. These technologies can potentially revolutionize various aspects of banking, from automating routine tasks to enhancing security and improving decision-making. ITBAs play a key role in identifying how these technologies can be applied to create value for the bank and its customers. For example, AI and machine learning can be used to develop predictive models for credit scoring, fraud detection, and customer segmentation. At the same time, blockchain can be leveraged to create secure and transparent systems for managing transactions and contracts (Iyelolu, Agu, Idemudia, & Ijomah, 2024; Osundare & Ige, 2024).

Another area where ITBAs are driving innovation is developing fintech partnerships. As traditional banks face increasing competition from fintech companies, many collaborate with these firms to leverage their innovative solutions. ITBAs are instrumental in these partnerships. They are responsible for assessing the feasibility of integrating fintech solutions with the bank's IT infrastructure and ensuring that these solutions align with its business objectives (Odonkor, Urefe, Biney, & Obeng, 2024; Urefe, Odonkor, Obeng, & Biney, 2024).

The role of ITBAs in digital transformation and innovation is not limited to implementing new technologies. They are also involved in change management, helping the organization transition to new working methods. This involves managing the technical aspects of the transformation and addressing the cultural and organizational challenges that come with it. ITBAs work with stakeholders at all levels of the organization to ensure that they are prepared for the changes and that the transformation is successful (Benjamin, Adegbola, Amajuoyi, Adegbola, & Adeusi, 2024).

4 Challenges and Opportunities

4.1 Common Challenges Faced by IT Business Analysts

IT Business Analysts in the banking sector operate in a highly dynamic and demanding environment, where they face numerous challenges that can impede their ability to deliver effective solutions. One of the most prevalent challenges is the complexity of banking systems. Banks typically operate with a mix of legacy systems and modern technologies, creating a complex IT landscape that ITBAs must navigate. Legacy systems, in particular, can be difficult to integrate with newer technologies due to outdated architectures and programming languages, making it challenging for ITBAs to implement seamless, end-to-end solutions (Bello & Olufemi, 2024).

Another significant challenge is the rapid pace of technological change. The banking industry constantly evolves, with new technologies, regulations, and market demands emerging quickly. ITBAs must stay abreast of these changes to ensure their design solutions are relevant and future-proof. However, keeping up with the latest trends and technologies requires continuous learning and adaptation, which can be daunting, especially when coupled with the demands of day-to-day responsibilities (Agu et al., 2024; C. P. Amajuoyi, L. K. Nwobodo, & A. E. Adegbola, 2024).

Regulatory compliance is another major challenge for ITBAs in the banking sector. Banks operate in a highly regulated environment, with stringent rules governing data privacy, cybersecurity, and financial transactions. ITBAs must ensure that the IT solutions they design comply with these regulations, which can be a complex and time-consuming process. Non-compliance can result in hefty fines and reputational damage, making it imperative for ITBAs to have a deep understanding of regulatory requirements and to work closely with legal and compliance teams.

Furthermore, the increasing threat of cybersecurity breaches poses a significant challenge for ITBAs. Banks are prime targets for cyberattacks due to the sensitive financial data they handle. ITBAs must ensure that the IT solutions they develop are secure and resilient against cyber threats. This involves implementing robust security measures, conducting regular risk assessments, and staying informed about the latest cybersecurity threats and vulnerabilities. However, balancing security with usability can be difficult, as overly stringent security measures can negatively impact the user experience. Finally, ITBAs often face challenges related to stakeholder management. In the banking sector, IT projects typically involve multiple stakeholders with diverse interests and priorities. ITBAs must navigate these complexities, managing stakeholder expectations and ensuring that the final solution meets the needs of all parties involved. This requires strong communication and negotiation skills and building consensus among stakeholders with differing viewpoints.

4.2 Emerging Opportunities in IT Business Analysis

Despite the challenges, technological advancements also create new opportunities for ITBAs in the banking sector. One of the most significant opportunities is the rise of big data and analytics. As banks generate vast amounts of data from various sources, there is a growing need for ITBAs who can harness this data to drive business decisions. By leveraging data analytics tools, ITBAs can provide insights into customer behavior, market trends, and operational performance, enabling banks to make more informed and strategic decisions.

Adopting artificial intelligence and machine learning is another area where ITBAs can capitalize on emerging opportunities. AI and ML can potentially revolutionize various aspects of banking, from fraud detection and risk management to customer service and personalized marketing. ITBAs who can effectively integrate AI and ML into banking systems will be in high demand, as these technologies can provide banks with a competitive edge by improving efficiency, accuracy, and customer satisfaction.

The increasing focus on digital transformation in the banking sector also presents significant opportunities for ITBAs. As banks seek to modernize their operations and enhance their digital offerings, there is a growing demand for ITBAs who can lead digital transformation initiatives. This involves implementing new technologies and rethinking and redesigning business processes to create more agile and customer-centric operations. ITBAs who can successfully navigate the complexities of digital transformation will be well-positioned to drive innovation and create value for their organizations (Abdul-Azeez, Ihechere, & Idemudia, 2024; Odonkor, Urefe, Biney, et al., 2024).

Blockchain technology is another emerging area of opportunity for ITBAs. While still in its early stages of adoption in the banking sector, blockchain can transform various banking aspects, including payments, trade finance, and identity verification. ITBAs who can understand and apply blockchain technology in the context of banking will be able to unlock new opportunities for efficiency, transparency, and security. As blockchain technology matures, ITBAs will play a crucial role in integrating it into existing systems and processes, ensuring that it delivers maximum value to the bank and its customers (Sadreddin & Chan, 2023). Moreover, the rise of fintech partnerships presents a unique opportunity for ITBAs. As traditional banks increasingly collaborate with fintech companies to offer innovative products and services, ITBAs are in a prime position to facilitate these partnerships. They can help assess the feasibility of integrating fintech solutions with the bank's infrastructure, ensuring that these solutions align with its strategic goals. By leveraging their technology and business analysis expertise, ITBAs can help banks navigate the complexities of fintech partnerships and deliver innovative solutions that meet customers' needs.

4.3 Strategies to Overcome Challenges and Leverage Opportunities

To successfully overcome their challenges and leverage emerging opportunities, ITBAs in the banking sector must adopt a proactive and strategic approach. One key strategy is continuous learning and professional development. Given the rapid pace of technological change, ITBAs must stay informed about the latest trends, tools, and methodologies in ITBA. This involves staying current with industry developments and seeking formal education and training opportunities. ITBAs can remain relevant and effective by continuously expanding their knowledge and skills.

Another important strategy is to foster strong relationships with stakeholders. Effective communication and collaboration are critical to the success of IT projects in the banking sector. ITBAs should work closely with stakeholders from across the organization, including operations, marketing, risk management, and compliance, to ensure that IT solutions meet the needs of all parties involved. This involves actively listening to stakeholder concerns, managing expectations, and building consensus around the project's goals and objectives.

To address the challenges associated with regulatory compliance, ITBAs should develop a deep understanding of the regulatory environment in which their bank operates. This involves staying informed about regulation changes and working closely with legal and compliance teams to ensure IT solutions comply with all relevant requirements. By taking a proactive approach to regulatory compliance, ITBAs can help their banks avoid non-compliance risks and ensure that IT solutions are implemented smoothly and effectively.

In terms of cybersecurity, ITBAs should prioritize security from the outset of any IT project. This involves conducting thorough risk assessments, implementing robust security measures, and staying informed about the latest cybersecurity threats and vulnerabilities. By taking a proactive approach to security, ITBAs can help protect their banks from cyber threats and ensure that IT solutions are secure and resilient. Finally, ITBAs should adopt a forward-looking approach to leverage emerging opportunities, actively seeking new technologies and methodologies to drive innovation and create value for their organizations. This involves staying informed about the latest developments in AI, blockchain, and fintech and exploring how these technologies can be applied to their bank's specific needs and objectives. By taking a strategic approach to technology adoption, ITBAs can help their banks stay ahead of the competition and deliver innovative solutions that meet customers' evolving needs.

5 Key Strategies for Success in IT Business Analysis

5.1 Essential Skills and Competencies for IT Business Analysts

To excel in IT Business Analysis within the banking industry, analysts must possess a blend of technical expertise, analytical thinking, and interpersonal skills. A deep understanding of both banking operations and information technology is critical. ITBAs must be well-versed in the unique challenges of the banking sector, such as regulatory requirements, risk management, and cybersecurity. Familiarity with core banking systems, digital banking platforms, and emerging technologies like artificial intelligence and blockchain is also essential.

Analytical thinking and problem-solving skills are fundamental to ITBA. ITBAs must be able to dissect complex problems, identify root causes, and devise effective solutions that align with business objectives. Additionally, they need strong communication and interpersonal skills to effectively collaborate with stakeholders across different departments, such as finance, operations, marketing, and compliance. The ability to translate technical jargon into business language is crucial for ensuring that IT solutions are understood and accepted by all stakeholders.

Project management skills are also vital for ITBAs, who often lead or coordinate IT projects. This requires managing timelines, resources, and budgets while meeting project goals. Finally, continuous learning is key, as ITBAs must stay updated with the latest trends and technologies in both IT and banking to remain competitive in this fast-evolving field.

5.2 Best Practices for Effective IT Business Analysis in Banking

Effective ITBA in the banking sector requires adherence to several best practices. First, ITBAs should adopt a customer-centric approach, ensuring that all IT solutions are designed with the end-user in mind. This involves understanding the needs and expectations of customers and translating them into functional and user-friendly IT systems. Conducting thorough requirements gathering through interviews, surveys, and workshops with stakeholders is essential for capturing accurate and comprehensive business needs.

Second, ITBAs should prioritize collaboration and communication. Successful IT projects require input and buy-in from various stakeholders, including business managers, IT teams, and external vendors. Regular communication helps to align expectations, mitigate risks, and ensure that all parties are on the same page throughout the project lifecycle.

Another best practice is the use of iterative and agile methodologies. In the fast-paced banking environment, flexibility is key. Agile methodologies, such as Scrum, allow ITBAs to deliver value incrementally, making adjustments based on feedback and changing requirements. This approach improves project outcomes and enhances stakeholder satisfaction by providing early and continuous delivery of project components. Finally, ITBAs should maintain a strong focus on compliance and security. In the highly regulated banking industry, ensuring IT systems adhere to legal and regulatory standards is paramount. ITBAs must work closely with compliance officers and legal teams to design systems that protect sensitive data and comply with regulations like GDPR and PSD2. Additionally, robust security measures should be implemented from the outset to safeguard against cyber threats.

5.3 Future Outlook and Recommendations

The future of ITBA in the banking industry is promising, with ongoing advancements in technology presenting both challenges and opportunities. As digital transformation continues to reshape the banking landscape, ITBAs will be crucial in driving innovation and ensuring that IT solutions align with strategic business goals. The adoption of AI, machine learning, and blockchain will likely become more widespread, requiring ITBAs to update their skills and knowledge continuously.

To succeed in this evolving environment, ITBAs should focus on developing expertise in emerging technologies and understanding their implications for banking. They should also cultivate strong relationships with stakeholders and foster a culture of collaboration and continuous improvement within their organizations. By doing so, ITBAs can help banks navigate the complexities of digital transformation and remain competitive in an increasingly digital world.

6 Conclusion

This study explores the evolution and significance of IT Business Analysis (ITBA) within the banking industry, emphasizing its role as a critical driver of digital transformation, operational efficiency, and strategic innovation. By tracing the historical development of ITBA, identifying current trends, and analyzing emerging challenges and opportunities, the paper provides a comprehensive understanding of how ITBAs navigate the complexities of the banking sector. The integration of modern methodologies, tools, and technologies such as agile frameworks, big data analytics, artificial intelligence, and blockchain has redefined the scope and impact of ITBA, enabling banks to stay competitive in an increasingly dynamic and customer-centric market. The paper also highlights the critical challenges faced by ITBAs, including the complexities of managing legacy systems, ensuring regulatory compliance, and mitigating cybersecurity risks. At the same time, it underscores the vast opportunities presented by advancements in fintech partnerships, predictive analytics, and digital innovation. ITBAs who adapt to these shifts and adopt proactive strategies—such as continuous learning, effective stakeholder engagement, and a forward-looking approach to technology adoption—will be well-positioned to drive sustainable success for their organizations. This research not only serves as a roadmap for current and aspiring ITBAs but also provides valuable insights for banking institutions looking to optimize their IT investments and align them with broader business objectives. By fostering a more efficient,

secure, and innovative banking ecosystem, the findings of this study contribute to the advancement of financial services, ultimately benefiting society through enhanced customer experiences, financial inclusion, and economic growth. Moving forward, collaboration between ITBAs, industry stakeholders, and technology providers will be essential in addressing emerging challenges and unlocking new opportunities in the ever-evolving banking landscape.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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