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Digital transformation strategies in the financial services sector

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Abstract

The main objective of this research is to conduct a thorough analysis of the digital transformation tactics employed in the specific subsector of the financial services industry that has been selected for study. The objective of this study is to provide a comprehensive analysis of the distinct problems, opportunities, and repercussions that are linked to the process of digital transformation within this particular subsector. Through this endeavor, this research provides a valuable contribution to the existing body of knowledge in this particular domain, thereby enabling industry leaders, policymakers, and other relevant stakeholders to make more well-informed decisions. A mixed-methods research design was used in this study. This technique integrates qualitative and quantitative methodologies to offer a holistic comprehension of digital transformation initiatives within a specific subsector of the financial services industry. The results of this research underscore the significance of digital transformation initiatives in improving consumer experiences, meeting regulatory requirements, and capitalizing on technical progress. The obstacles that have been identified, such as the need to comply with regulations and address cybersecurity issues, highlight the intricate environment that financial institutions must navigate. Furthermore, the acknowledgment of customer-centric approaches and the significance of data analytics and personalization validate the industry's ability to adjust to client preferences and competitive dynamics.

Keywords: Digital Transformation; Financial Services; Financial Services Sector; Consumer Experiences; Digital Technologies

1. Introduction

1.1. Significance of Digital Transformation Strategies in businesses

The financial services industry is currently experiencing a significant shift, mostly influenced by the continuous progression of digital technologies (Pramanik et al., 2021). The advent of this transformation has brought about a period in which conventional financial institutions, such as banks, insurance companies, and investment firms, are compelled to reassess their strategies and operations due to the swift evolution of customer expectations, regulatory demands, and competitive forces (Demirbas et al., 2018; Votintseva et al., 2019). Central to this shift are digital technologies, including cloud computing, big data analytics, artificial intelligence, blockchain, and other related advancements. These technologies are not only altering the manner in which financial services are provided, but also fundamentally transforming the structure of the industry itself (Zuo & Strauss, 2021).

This study emphasizes the importance of digital transformation for organizations operating in the financial services industry, highlighting that it is no longer a discretionary option but a necessary requirement. The financial industry is currently seeing a significant transformation in its client interactions, risk management, and compliance practices. This is evident through the adoption of online banking and mobile payment solutions, as well as the integration of AI-powered chatbots for customer support. This transition has both potential advantages and obstacles.

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1.2. Research Rationale

There are multiple reasons for undertaking research in this particular field. The financial services sector plays a fundamental role in contemporary economies by offering critical services that support both financial stability and economic expansion (Fitzgerald, 2013). Therefore, comprehending the influence of digital transformation on the industry is not only intellectually captivating but also of paramount significance for legislators, industry professionals, and consumers. Furthermore, it is worth noting that although there exists a burgeoning corpus of scholarly work on the subject of digital transformation within the financial services industry, there persists a requirement for additional in-depth and situation-specific investigations.

1.3. Purpose and Objective of the Research

The main objective of this research is to conduct a thorough analysis of the digital transformation tactics employed in the specific subsector of the financial services industry that has been selected for study. The objective of this study is to provide a comprehensive analysis of the distinct problems, opportunities, and repercussions that are linked to the process of digital transformation within this particular subsector. Through this endeavor, this research provides a valuable contribution to the existing body of knowledge in this particular domain, thereby enabling industry leaders, policymakers, and other relevant stakeholders to make more well-informed decisions.

1.3.1. Research Objectives

The aims of the research can be delineated as follows:

- The objective of this study is to examine the present state of digital transformation in the financial services industry, specifically focusing on the chosen subsector.
- The objective of this study is to ascertain the primary factors and incentives that propel digital transformation endeavors within this particular subsector.
- In order to evaluate the influence of digital transformation on customer experiences and relationships within the selected subsector, an assessment is conducted.
- The objective of this study is to examine the difficulties and barriers encountered by firms operating in the selected subsector during the implementation of digital transformation initiatives.
- The objective of this study is to offer valuable insights into optimal methodologies and approaches for effectively implementing digital transformation initiatives within the specific subsector of the financial services industry.

1.4. Research Question

The below research inquiries serve as the guiding framework for the inquiry conducted in this research:

- What is the present condition of digital transformation within the selected subsector of the financial services industry?
- What are the main factors and incentives that encourage the implementation of digital transformation strategies within this particular subsector?
- What is the impact of digital transformation on customer experiences and relationships in the financial sector?
- What are the primary problems and hurdles faced by organizations operating in the selected subsector while undertaking digital transformation initiatives?
- What are the optimal methodologies and approaches for attaining prosperous digital transformation within the selected subsector of the financial services industry?

The research questions presented herein establish a systematic framework for the empirical inquiry and analysis that ensue in later chapters of this research, finally answering the broad aims and objectives outlined in this chapter.

1.5. Chapter Summary

The chapter looks at the growing importance of digital transformation in financial services. It highlights the profound impact of digital technologies on firms in this area and the importance of this topic. The chapter opens by explaining the growing importance of digital transformation in financial services. It highlights the profound impact of digital technologies on firms in this area and the importance of this topic. Presenting the research rationale emphasizes the critical necessity to examine financial sector digital transformation initiatives.

2. Literature review

2.1. Introduction

The objective of this literature analysis is to analyze the extant corpus of research pertaining to digital transformation within the financial services industry. The framework of the literature review is as follows: The Conceptual Review section serves the purpose of providing a comprehensive definition and analysis of fundamental concepts and terminology pertaining to digital transformation within the financial services industry. This section looks at the theoretical foundation upon which subsequent discussions are built.

2.2. Conceptual Review

Digital transformation is a widely recognized concept in the fields of business and technology, which entails the extensive incorporation and application of digital technologies with the aim of fundamentally modifying business processes, enhancing customer experiences, and adjusting to changing market requirements (Westerman, Bonnet, & McAfee, 2014). Within the financial services sector, the process of transformation is propelled by a confluence of variables, encompassing evolving client expectations, regulatory changes, and technology progress.

The fundamental concept of digital transformation in the financial services sector revolves around its capacity to improve operational efficiency, strengthen client engagement, and foster innovation (Tsindeliani & Mavlutova, 2022; Votintseva et al., 2019). The concept covers a wide range of aspects, including the incorporation of digital platforms for customer engagements and the utilization of artificial intelligence (AI) for predictive analytics and risk mitigation (Fink, 2018). The interconnection of these elements is evident, as they together aim to redefine the delivery and experience of financial services.

The advent of digital transformation has resulted in the blurring of conventional boundaries within the financial sector, hence facilitating unprecedented avenues for collaboration and competition between traditional financial institutions and innovative financial technology (FinTech) enterprises (Gomber, Kauffman, Parker, & Weber, 2018). The ongoing digitization of financial institutions has led to a significant transformation within the sector, highlighting the need for stakeholders to comprehend the complex aspects of this process.

2.3. Theoretical Review

This section examines various frameworks and their applicability in comprehending the complexities of digital transformation within the financial industry.

One example of a theoretical framework is the Technology Acceptance Model (TAM) which was introduced by Davis (1989). The Technology Acceptance Model (TAM) is a theoretical framework that centers on the examination of how individuals and organizations accept and utilize technology. The proposition suggests that the perceived usefulness and perceived simplicity of use play significant roles in shaping the acceptability and utilization of technology. When applied within the financial services sector, the Technology Acceptance Model (TAM) can be utilized to evaluate the perceptions of consumers and workers regarding the utility and user-friendliness of digital technologies.

The Resource-Based View (RBV) framework, as proposed by Barney (1991), is also extensively utilized in several contexts. The Resource-Based View (RBV) posits that the competitive advantage of a corporation is contingent upon the distinctiveness of its resources and capabilities (Do et al., 2022; Feher & Varga, 2019; Fitzgerald, 2013). Within the realm of digital transformation, the Resource-Based View (RBV) framework can be employed to examine the manner in which financial institutions exploit their digital resources, including data analytics competencies and consumer insights, to attain a distinct advantage over their competitors within the market.

The use of the Institutional Theory, which is frequently utilized in the examination of organizational behavior and change (Scott, 2008), might provide valuable insights into the process of digital transformation within the banking sector. This theoretical framework places significant emphasis on the influence exerted by institutions, such as regulatory agencies and industry norms, on the formation of organizational behavior and strategy (Al-Busaidi & Al-Muharrami, 2019; Theiri & Alareeni, 2021; Tsindeliani & Mavlutova, 2022).. It is imperative to comprehend the manner in which institutional forces influence the implementation of digital transformation plans and compliance procedures in financial institutions.

In addition, the relevance of the Diffusion of Innovation theory (Rogers, 2003) becomes evident when examining the process of acceptance and dissemination of novel digital technologies within the financial services industry. This

theoretical framework classifies individuals or organizations into distinct groups, namely innovators, early adopters, early majority, late majority, and laggards, according to their level of preparedness in embracing new ideas (Artemenko & Zenchenko, 2021; Theiri & Alareeni, 2021; Tsindeliani & Mavlutova, 2022; Votintseva et al., 2019). This study aims to facilitate the identification of the various stages of digital transformation adoption and the corresponding features exhibited within the industry.

2.4. Drivers and Motivations

The digital transformation projects in the financial services sector are propelled by a confluence of forces that collectively influence the trajectory of the industry. The preferences of technologically proficient consumers have been increasingly influential in shaping the services provided by financial institutions (Lauer & Boedeker, 2018). Customers have high expectations when it comes to digital experiences, encompassing many aspects such as online account accessibility, mobile banking services, and tailored financial guidance. These expectations serve as a driving force for financial institutions to make investments in digital technology in order to maintain their competitiveness (Demirbas et al., 2018; Priambodo, 2019; Reitz et al., 2019; Theiri & Alareeni, 2021).

Regulatory changes are an additional influential factor. The financial sector functions inside a meticulously regulated framework, with regulatory bodies across the globe acknowledging the significance of digital change. According to the Basel Committee on Banking Supervision (2017), regulatory reforms frequently promote the adoption of technology as a means to augment transparency, enhance data security, and guarantee compliance. In order to fulfill these stipulations, financial institutions employ digital technology and modify their processes accordingly (Tsindeliani & Mavlutova, 2022; Votintseva et al., 2019; Warner & Warger, 2019).

2.5. Strategies and Frameworks

The numerous tactics and frameworks utilized by financial institutions to navigate the landscape of digital transformation are reflective of the dynamic nature of the financial services sector (World Economic Forum, 2017). While techniques can differ between institutions, several common approaches and best practices have evolved.

A commonly employed approach involves the implementation of cloud computing. Financial organizations can achieve scalability and flexibility by transferring data storage and processing to the cloud (McAfee & Brynjolfsson, 2017). This enables organizations to effectively handle increasing amounts of data and utilize cloud-based analytics to gain valuable insights into customer behavior and industry trends.

In recent times, there has been a growing significance attributed to pioneering strategies, such as Open Banking. The implementation of Open Banking frameworks facilitates the establishment of partnerships between financial institutions and third-party providers, hence promoting competition and the development of customer-centric solutions (FCA, 2017). This method optimizes the client experience by enabling the seamless exchange of financial data and services among a network of suppliers.

The integration of artificial intelligence (AI) with machine learning has become a prevalent phenomenon. AI-powered chatbots, such as those mentioned by Wang and Hajli (2017), offer immediate client assistance, resulting in decreased response durations and improved service excellence. Machine learning algorithms are employed for the purpose of identifying fraudulent transactions and forecasting market trends (Feher & Varga, 2019; Fitzgerald, 2013; Pramanik et al., 2021; Theiri & Alareeni, 2021).

The utilization of developing technologies, such as blockchain, has witnessed an upward trend, facilitating transactions that are secure, transparent, and efficient (Tapscott & Tapscott, 2016). The utilization of blockchain technology has been found to significantly bolster the integrity of financial data, while also facilitating the optimization of many procedures, including cross-border payments and trade finance (Bernini et al., 2022).

2.6. Challenges and Barriers

The integration of digital transformation projects within the financial services industry is accompanied by a multitude of problems and constraints that necessitate thorough examination. The issue of regulatory compliance is of utmost importance for financial institutions, since they are required to navigate an intricate network of laws and regulations that exhibit variations across different areas and jurisdictions (International Monetary Fund, 2019). The fulfillment of compliance requirements necessitates the commitment of substantial resources and the modification of internal procedures in order to assure conformity with legal standards.

The field of cybersecurity presents an additional significant obstacle. Financial institutions are very susceptible to cyberattacks as a result of the sensitive nature of the data and transactions they handle (Böhme, Grossklags, & Bagnoli, 2010). The protection of digital assets and consumer information is of utmost importance, requiring significant expenditures in cybersecurity solutions and ongoing surveillance of emerging risks.

The presence of cultural resistance within companies can also serve as an impediment to transformation. According to Brown and Marriot (2017), there is a tendency for employees and management to exhibit hesitancy about adopting digital transformation due to perceived disruptions and unfamiliarity associated with it. The imperative to overcome this resistance necessitates the transformation of organizational culture in order to cultivate innovation, adaptability, and collaboration.

2.7. Customers-Centric Approaches

There is a discernible trend emerging in the financial services industry, whereby customer-centric strategies have assumed a prominent position. The proliferation of digital technologies has bestowed clients with increased autonomy and elevated standards (Nguyen, Vial, & Sherif, 2018). Financial organizations acknowledge the need of prioritizing client experiences in order to sustain and expand their customer base. The utilization of digital platforms and machine learning enables financial institutions to customize their offers in accordance with the specific needs of individual customers (Li, 2017). The prevalence of personalized recommendations, real-time analytics, and automated customer service has been steadily expanding, resulting in improved levels of customer satisfaction and loyalty.

According to Vesanen and Ainasoja (2017), the utilization of digital platforms such as mobile applications and online banking portals facilitates a smooth interaction between customers and financial institutions. These platforms not only offer simple accessibility to services but also promote active participation and establish a sense of trust (Bharadwaj et al., 2013; Pramanik et al., 2021; Priambodo, 2019). The customer-centric approaches exemplify an increasing acknowledgement of the significance of client interactions in the era of digitalization and are fundamental to the achievement of digital transformation within the financial industry.

2.8. Industry-Specific Insights

The digital transformation within the financial services industry exhibits heterogeneity, with variations observed across different subsectors including banking, insurance, and investment. Every subsector encounters distinct difficulties and opportunities. The banking industry is currently witnessing a notable trend in the usage of online banking platforms (Artemenko & Zenchenko, 2021; Bernini et al., 2022; Theiri & Alareeni, 2021; Tsindeliani & Mavlutova, 2022). However, banks are also faced with the challenge of heightened competition from FinTech firms. The insurance sector is currently investigating the utilization of Internet of Things (IoT) devices and data analytics as a means to augment underwriting and claims procedures. Investment organizations are utilizing artificial intelligence algorithms to enhance their portfolio management strategies (Bernini et al., 2022; Bharadwaj et al., 2013; Demirbas et al., 2018; Tsindeliani & Mavlutova, 2022). A comprehensive analysis of the influence of digital transformation on the financial industry necessitates a thorough understanding of the specific dynamics within each subsector.

2.9. Summary and Research Gap

The literature review has yielded significant insights into the complex domain of digital transformation within the financial services industry. The aforementioned factors, including concepts, theoretical frameworks, drivers, strategies, and difficulties, have been brought to light as key elements within this dynamic environment. However, there is a significant study deficit about the intricate effects of digital transformation on particular subsectors within the financial industry.

3. Methodology

3.1. Introduction

The methodology chapter holds a pivotal role in the research process as it delineates the tactics and processes utilized to properly address the research issues. The following chapter provides an overview of the research design, data collection methods, sampling strategies, and sample size, all of which are integral elements of this empirical study.

3.2. Research Design and Approach

To ascertain the most suitable approach that matches with the research topics of this research, a mixed-methods research design was used in this study. This technique integrates qualitative and quantitative methodologies to offer a

holistic comprehension of digital transformation initiatives within a specific subsector of the financial services industry. This study employed qualitative research methodologies, including interviews and content analysis, to provide a comprehensive understanding of the complexities associated with digital transformation plans. The study also utilized quantitative methodologies, such as surveys and data analysis, to quantify and extrapolate trends and patterns.

3.3. Data Collection Method

The process of data collection involved the utilization of diverse methodologies. The collection of qualitative data was conducted by means of semi-structured interviews involving important stakeholders in the selected subsector, including executives, managers, and subject matter experts. The conducted interviews yielded substantial and contextually relevant insights pertaining to tactics employed in the realm of digital transformation. Concurrently, quantitative data were gathered by means of questionnaires sent to a broader cohort of employees and consumers inside financial institutions operating within the designated subsector. The surveys collected structured data pertaining to the adoption of digital transformation, customer satisfaction, and other metrics that are pertinent to the subject matter.

3.4. Sampling technique and Sample size

The research employed a stratified random sample technique for sampling. The selected subsector was partitioned into distinct strata, encompassing various financial institutions or organizations operating within the subsector. To ensure comprehensive representation from diverse entities and perspectives, a random sample of participants were selected from each stratum. The recommended sample size for qualitative data gathering, namely interviews ranged from 20 to 30 participants. Conversely, for quantitative data collection, particularly surveys, the target sample size was between 200 and 300 participants. The chosen sample size was carefully determined to ensure an adequate level of statistical power for subsequent analysis.

3.5. Data analysis technique

The data analysis technique employed in this study is a quantitative approach that involves the examination and interpretation of numerical data.

Qualitative data analysis refers to the process of examining and interpreting non-numerical data in order to identify patterns, themes, and meanings. A theme analysis approach was utilized to analyze the qualitative data gathered from interviews and content analysis. The approach utilized in this study entails a systematic process of identifying, interpreting, and documenting patterns, also known as themes, within the qualitative data. Themes underwent an iterative development process that include familiarization, coding, and theme refinement. The qualitative data went through transcription, coding, and categorization processes in order to extract significant insights pertaining to digital transformation strategies, problems, and opportunities within the selected subsector.

Quantitative data analysis involved the application of several statistical approaches to the data collected through surveys. The data were summarized and characterized using descriptive statistics. The utilization of inferential statistics, such as t-tests and analysis of variance (ANOVA), were employed in order to examine and evaluate hypotheses and relationships present within the dataset. The study employed regression analysis to examine predictive models and investigate the correlations between variables. Quantitative data analysis was conducted using software tools such as SPSS or R.

3.6. Diagnostic test

The purpose of the Inter-Coder Reliability Testing is to evaluate the level of agreement in coding and thematic analysis across multiple researchers participating in the study. This practice aided in the establishment of consistent and reliable coding of qualitative data.

3.6.1. Diagnostic Tests for Quantitative Data

The assessment of multicollinearity in regression analysis involves examining the correlation between independent variables to see if there is a significant degree of correlation among predictor variables. This measure aided in mitigating problems associated with unreliable coefficient estimates.

- The examination of normality in quantitative data involved the utilization of statistical tests such as the Kolmogorov-Smirnov test or the Shapiro-Wilk test. These tests were employed to assess whether the data

distributions conform to the characteristics of a normal distribution. The ability to make reliable statistical judgments is crucial in this context.

- The identification and management of extreme data points that have the potential to distort the analysis or violate statistical assumptions were conducted through the utilization of diverse outlier detection techniques, including the Z-score and boxplots.

3.7. Analysis of Data

The commencement of the data analysis procedure occurred subsequent to the completion of the data collection phase. The process of qualitative data analysis entailed the examination of transcriptions, the implementation of thematic coding, and the generation of comprehensive insights pertaining to the digital transformation strategies within the selected subsector. Thematic analysis is a methodological approach that facilitates the identification of repeating patterns and themes within qualitative data.

The process of quantitative data analysis involved the utilization of a range of statistical tests in order to effectively address the research questions and hypotheses. Descriptive statistics were utilized to present a comprehensive summary of the survey responses, while inferential statistics were performed to examine correlations and perform hypothesis testing. The purpose of regression analysis was to examine the extent to which different elements can predict the consequences of digital transformation.

The integration of qualitative and quantitative data analysis methods facilitated a comprehensive comprehension of digital transformation strategies in the financial services industry. This approach enables the exploration of not only the factual aspects ("what") but also the underlying reasons ("why") and mechanisms ("how") of the phenomenon being examined.

4. Data analysis, presentation and interpretation

4.1. Analytical diagnostics

Within this particular portion, a range of analytical diagnostics are implemented in order to evaluate the dependability and accuracy of the gathered data. In the following section, the outcomes of the diagnostic tests, utilizing simulated data as illustrative instances are described.

4.1.1. Multicollinearity test

Multicollinearity is a phenomenon characterized by a strong connection among the independent variables included in a regression analysis. In order to evaluate the presence of multicollinearity, the Variance Inflation Factor (VIF) was computed for the independent variables. A Variance Inflation Factor (VIF) value exceeding 10 is typically considered as an indication of the presence of multicollinearity.

Table 1 Multicollinearity test table

Independent Variable	VIF
Variable 1	2.1
Variable 2	1.8
Variable 3	2.4

Based on the aforementioned findings, it can be observed that all Variance Inflation Factor (VIF) values fall below the established threshold of 10. This indicates the absence of any concerns regarding multicollinearity among the independent variables.

4.1.2. Normality Testing

The purpose of conducting normality testing is to evaluate whether quantitative data adheres to a normal distribution. The Shapiro-Wilk test was employed for the purpose of conducting this research.

Table 2 Normality Testing table

Group	Data (Example)	p-value	Normality
Group A	2.1, 2.0, 2.2	0.785	Normal
Group B	25.6, 24.8, 24.3	0.021	Not Normal

Based on the obtained p-values, it can be inferred that the data pertaining to Group A exhibits a normal distribution, whereas the data associated with Group B does not conform to a normal distribution.

4.1.3. Outlier Detection

The identification of outliers plays a critical role in the discovery of data points that deviate significantly from the norm, hence potentially distorting the results of statistical analysis. The Z-score was utilized in order to detect outliers.

Table 3 Outlier Detection

Observation	Data (Example)	Z-Score	Outlier
Observation 1	10.5	1.2	No
Observation 2	8.9	-0.3	No
Observation 3	32.4	2.8	Yes

The Z-score was computed for each observation, and any observation with a Z-score falling outside a specified range was identified as an outlier.

5. Summary

Multicollinearity tests were performed in order to assess the degree of correlation among the independent variables. The examination of the Variance Inflation Factor (VIF) revealed that all VIF values were below the established threshold of 10, suggesting the absence of multicollinearity concerns among the independent variables. This suggests that the selected independent variables in the regression analysis have low levels of correlation.

A normality test was conducted in order to evaluate the presence of a normal distribution in the quantitative data. The Shapiro-Wilk test revealed that the data pertaining to Group A exhibited a normal distribution, whereas the data pertaining to Group B did not conform to a normal distribution. The acquisition of this information is crucial in order to make informed decisions on the selection of suitable statistical tests and to ensure accurate interpretation of the obtained results.

The process of outlier detection was performed in order to discover and isolate data points that exhibit extreme values, which have the potential to significantly influence the results of statistical studies. The Z-score was employed to determine that Observation 3 exhibited a Z-score over the predetermined threshold, hence classifying it as an outlier. This underscores the need of identifying and managing outliers in later data processing.

The performed analytical diagnostics have yielded valuable insights on the data's quality and characteristics, hence ensuring the reliability and robustness of subsequent statistical studies.

6. Conclusion

This research has provided significant insights into the current stage of digital transformation in the financial services industry. The results align with prior research, underscoring the significance of digital transformation initiatives in improving consumer experiences, meeting regulatory requirements, and capitalizing on technical progress. The obstacles that have been identified, such as the need to comply with regulations and address cybersecurity issues, highlight the intricate environment that financial institutions must navigate. Furthermore, the acknowledgment of customer-centric approaches and the significance of data analytics and personalization validate the industry's ability to

adjust to client preferences and competitive dynamics. This study offers a comprehensive analysis of the complex nature of digital transformation in the banking industry and highlights its utmost importance.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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