Identification of Information Technology Tools in Strategy Implementation: A QFD Approach

Samira Loghman[1*] | Hamidreza Yazdani[2] | Amin Hakim[3] | Asadollah Kordnaeij[4]

Article Type:
Research Article

Samira Loghman
Corresponding Author, Ph.D. in Management (system), Faculty of Management and Accounting, University of Tehran, Tehran, Iran.
E-mail: s.loghmanestarki@gmail.com

Hamidreza Yazdani
Associate Professor, Faculty of Management and Accounting, University of Tehran, Tehran, Iran.
E-mail: hryazdani@ut.ac.ir

Amin Hakim
Assistant Professor, Accounting and Management, Farhangian University, Tehran, Iran.
E-mail: hakim@ut.ac.ir

Asadollah Kordnaeij
Professor, Accounting and Management, Tarbiat Modarres University, Tehran, Iran.
E-mail: naeij@modaress.ut.ac.ir

Autumn & Winter (2024-2025)
1(2): 221-239

Received: 1 October 2024
Revised: 19 October 2024
Accepted: 26 October 2024
Available Online: 31 October 2024

ABSTRACT

One of the important challenges for organizations is that many strategic plans are not successfully implemented. Information technology (IT) tools can enable organizations to effectively implement their strategies by providing the necessary information infrastructure at various levels of the organization and among top and strategic managers. The main objective of this research is to identify the IT tools required to implement the strategies of Mellat Bank using the quality function deployment (QFD) approach. The research method in terms of outcome is categorized as developmental research, in terms of objective as applied research, and in terms of method as descriptive qualitative research. The statistical community in this study consists of experts and specialists from Mellat Bank Tehran. This research was conducted over one year, from 2019 to 2020. This research uses the method of extending the quality performance to translate strategies from high to low levels. In this study, the QFD method was used to translate strategies from high-level to low-level. To this end, QFD matrices were designed for each design subject, and the necessary IT tools for the expected functions were identified and scored using expert opinions. The findings show that for each strategy in an organization, we require specific information technology tools to execute the strategy within the organization properly. This study introduced the necessary tools for five strategic subjects, including integration and acceleration of design, production, and delivery of banking products and services, design and implementation of market penetration strategies, asset generation, improvement of credit processes, and financial and managerial independence of branches. Utilizing the identified IT tools will remove and reduce the barriers to implementing strategies and the strategic superiority of top-level and executive managers of organizations.

KEYWORDS

Information Technology Tools, Quality Function Deployment, Strategy Implementation.

Cite this article: Loghman, S., Yazdani, Y., Hakim, H., & Kordnaeij, A. (2024). Identification of Information Technology Tools in Strategy Implementation: A QFD Approach. *Journal of Knowledge Economy Studies (JKES)*, 1(2), 221-239.

DOI: http//doi.org//10.22034kes.2024.2043816.1020 **Publisher:** Hazrat-e Masoumeh University

Introduction

Implementing strategy as a part of strategic management plays a significant role in achieving competitive advantage in organizations (Misankova & Kocisovaka, 2014). In the past two decades, strategy formulation was considered the main component of strategic management; however, recent research has shown that strategy implementation is more important than strategy formulation, and the key to the performance of top companies is the better implementation of strategy (Jooste & Fourie, 2009). Despite the significant importance of strategy implementation, more research research and investigation are needed on this subject (Vahidi et al., 2023). It is believed that formulating a business strategy is difficult while implementing the strategy throughout the organization is significantly more challenging than its formulation. Without effective implementation, no business strategy can succeed (Hrebiniak, 2013). In addition, implementing a strategy involves engaging more individuals than its formulation (Salami & Rahmanseresht, 2023). To implement strategies (mission and objectives) in the organization, these strategies must be transformed into processes (manifestation of strategies in processes). Then, the processes must be implemented through operational systems and executive activities (realization of objectives in process execution). Mechanized or manual systems can be utilized to execute processes, highlighting the necessity of utilizing information technology capabilities in strategy execution (Loghman Estarki et al., 2022). Information technology (IT) is considered a vital tool for implementing business strategies and a driver of strategy execution (Jorfi et al., 2017). The use of IT tools in implementing strategy can form the basis for creating a competitive advantage for organizations that have the skills and capabilities to use IT tools in managing the process of implementing strategy. The use of IT tools allows strategies to be properly implemented within the organization and for the obstacles in implementing the strategy to be removed or reduced (Laghman Estarki, 2020).

The research indicates that if an organization lacks sufficient organizational capability or IT capability, its strategy implementation will be subject to many external factors (Galbreath, 2003) .In other words, IT and its tools facilitate and organize data and information, disseminate and share information within the organization, increase the accuracy, speed, and accessibility of strategic information, accelerate the identification of issues, assist in strategic decision-making, enhance planning standards, reduce planning risks, and increase the speed and accuracy of planning, leading to facilitating and improving the implementation of strategy within the organization (Hakim, 2019).

The growth of IT and its penetration into the banking industry has led to significant changes. Thus, the survival of organizations is impossible without utilizing this technology. The emergence of concepts such as electronic banking and digital banking illustrates this fact. Statistical surveys indicate that various banks worldwide have embarked on the path of digitization and are formulating strategies in line with this goal, striving to integrate IT tools into all processes related to their programs. Mellat Bank, as one of the pioneers in Iran's banking industry, has recognized the impact of IT and its

capabilities as a facilitator and supporter of the banking industry. With a strategic outlook and significant investment in this area, Mellat Bank has created a suitable opportunity to move innovatively forward. In fact, in the strategic perspective of IT, Iran Mellat Bank has referred to this issue under the title of "Empowering Information Technology towards Achieving a Leading and Innovative Position to Ensure Stakeholder Satisfaction by Playing the Role of a Strategic Partner in Business".

Establishing the necessary information infrastructure in various organizational domains is considered as one of the most important concerns of the policymakers at Mellat Bank. We need effective and efficient use of IT tools to succeed in achieving our strategic goals. As a result, one of the challenges that this bank faces is the need for information in some cases, which will hinder the proper and economical management of the bank's strategic plans. IT tools provide the opportunity to facilitate the provision of appropriate services through information systems and the necessary technology infrastructure to implement strategies with proper data and information organization. Therefore, by providing the necessary information infrastructure through IT tools in various banking areas, strategy formulation will be carried out with greater accuracy, and the effectiveness of implementing and executing banking programs will be increased with greater precision.

Based on the above, the present research's subject is identifying IT Tools in Strategy Implementation, which will be addressed in the context of Mellat Bank of Iran. It should be noted that the reason for choosing Mellat Bank is that the bank under study is currently one of the largest banks in the country with a capital of over 500,000 billion rials, operating within the framework of the Islamic Republic of Iran. Furthermore, the bank's technology sector has made it the leading bank in IT and modern banking services. Accordingly, the present research aims to identify IT tools for implementing Mellat Bank's strategies using the QFD approach.

Literature Review

Meymandpour et al. (2008) in an article titled "The Impact and Applications of Information Technology in Strategic Management" have examined the comprehensive role of IT in strategic decision-making and information flow creation in all organizational processes, and its applications in strategic management. This article focuses on the profound influence of IT on improving the formulation and implementation of strategy.
Khedari (2017) conducted research entitled "The Impact of Information and Communication Technology on Improving Strategic Management in Executive Institutions of the Country". The results of his research showed that senior management support systems, management information systems, decision support systems, administrative activity automation systems, process workflow systems, and network systems improve the strategic management of executive institutions of Iran. Using IT and its capabilities in strategic management helps organizations to choose more reasonable ways or strategic options, formulate better strategies, and ultimately implement them

more efficiently. Using information and communication technology strategies for strategic management processes improves this process significantly. Razaei et al. (2018) in a study titled "The Role of Information Systems in the Effective Implementation of Strategies (Case Study: Bank Maskan Branches in Tehran)" investigated the role of information systems in the effective implementation of strategies. The research findings indicated that variables related to information systems and organizational factors are correlated and mutually influence each other. Furthermore, implementing information systems in organizations improves strategy execution. Maqdesi and Nahid (2021) demonstrated that internal environmental factors, including leadership, structure, human resources, financial information, and communication, as well as external environmental factors, including financial, informational, organizational culture, political/legal, and social/cultural factors, influence the successful implementation of strategy in Mellat Bank. Galbreath (2003) in a study entitled "A Review of the Role of Information Technology in Strategic Management," examined the significant role of IT in strategic management processes, including formulation and implementation processes, and the control of payments. Yeh et al. (2012) also investigated the impact of information system capabilities on i8mplementing IT strategies in e-businesses. This study categorized IT capabilities into the following three levels: individual, group, and organizational. At the individual level, this study examines the impact of information system leadership or IT leadership and the allocation of IT resources by senior IT managers on the quality of IT strategy implementation processes. At the group level, it examines the impact of collaboration capability and knowledge sharing in the organization on the quality of IT strategy implementation. At the organizational capability level, it investigates the influence of system development and project management capabilities on the quality of strategy execution processes. Gebczynska (2016), in a study titled "Investigating the Effectiveness of Strategy Implementation at the Process Level," examined the effectiveness of strategy implementation at the process level, which requires a process-oriented approach and process management system. In this study, the implementation of strategies and the tools used for executing strategies were compared, and the results revealed that organizations that use a process-oriented approach instead of a task-oriented approach and utilize process management systems in their strategy execution have performed more successfully than other companies. Jorfi et al. (2017), in a study titled "An Empirical Study of the Role of Information Technology Capabilities on Strategic Alignment of Information Technology Businesses," examined the role of IT capabilities in the strategic alignment of technology-based businesses. The results showed that IT capabilities have a positive and significant impact on the strategic alignment of technology-based businesses.

Strydom and Fourie (2018), in research titled "The Perceived Impact of Diversity Factors on Strategy Implementation in Higher Education Institutions," investigated the various reasons for diversity in strategy implementation in higher education institutions. Their research findings indicated that five factors influence strategy implementation and the diversity of strategy models in these institutions, one is human resource systems,

which includes the capabilities of IT. Loghman Estarki et al. (2022) conducted a study titled "Ranking Information Technology Capabilities in Strategy Implementation Using AHP Approach." The results showed that designing IT capability-based strategies is of utmost importance, followed by developing required IT capabilities ranking second. The analysis of the necessary financial model ranked third, and the definition of IT capabilities ranked fourth.

Methodology

The research method is categorized as developmental in terms of outcome, applied in terms of objective, and descriptive qualitative in terms of method. The statistical population in this study consists of experts and employees of Mellat Bank Tehran, especially the Organization and Planning Department, the Information Technology Department, and the Behsazan Mellat Holding (including Behsazan, Behpardakht, Yas Arghavani, Yas Industrial Engineering, and Shaghayegh companies). The experts involved in this research include 15 managers, deputies, and specialists from the Information Technology Department and the Organization and Institutions Department of Mellat Bank, and other knowledgeable experts in this field. In the present study, selected individuals possess advanced theoretical knowledge and expertise in strategic planning, including strategy formulation and implementation, as well as IT. They have been chosen from specific parts of the organization that are familiar with strategy execution and have participated in this process. Furthermore, most of the selected individuals in this study (12 out of 15 people) have more than ten years of experience and relevant education in management or IT. This research was conducted over one year from 2019 to 2020.

In this study, the method Quality Function Deployment (QFD) method has been used for the comparison, interpretation, translation, and integration of different criteria. QFD is used for different purposes, such as developing quality functions, applying qualitative performance, and determining qualitative functions. The translation of the term "Kanji" is used by the Japanese to express the concept of the generalization and expansion of quality. The function of QFD can be summarized in two sentences: translating and transforming customer needs into product technical specifications and determining quality activities appropriate to the product technical specifications. QFD adapts the Total Quality Management (TQM) philosophy and emphasizes customer-centric service/product design, continuous improvement, and individual participation. Its foundation lies in understanding customer needs for production and relating them to design characteristics through the quality house. This method identifies all customer requirements and needs and effectively transfer them to different parts of the organization. In this regard, QFD forms were designed for each design subjects, and the technical requirements or IT tools required for the operation of each expected functions were identified and scored using expert opinions.

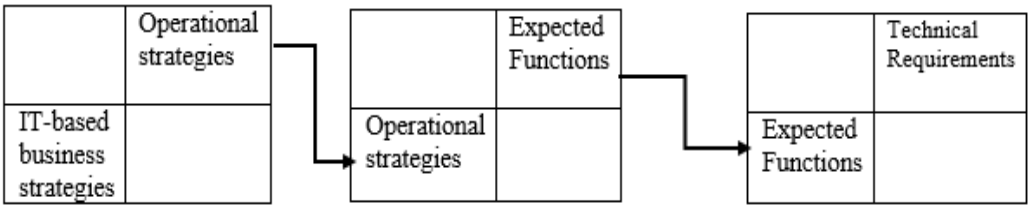
Generally, the role of QFD in strategic studies is to establish connections between strategic needs and operational decisions through the strategy house. In this study, an

attempt was made to utilize the QFD technique to align the implementation and execution of strategies. This approach enables the alignment of organizational macro strategies with operational and functional levels, facilitating the groundwork for implementing operational plans. The QFD tool can determine the technical requirements that need to be identified and implemented to achieve the expected functions of operational strategies. The implementation of each operational strategy signifies an effective step towards implementing IT-based business strategies, which have been designed and developed in this study. Identifying and implementing the functional requirements and movements in the path of expected functions of operational strategies is necessary for designing a macro-level strategy, and havinf some degree of certainty about its implementation.

Findings

The following proposed model was utilized to design a matrix for enhancing the quality of service in IT strategies at Mellat Bank. It cascades from high-level strategies to technical requirements (or IT tools required for each strategic subject).

Figure 1.
The Triple Stages of QFD for Moving from High-Level Strategies towards Technical Requirements (IT Tools Related to Each Strategic Subject)



(Source: Researcher's Findings)

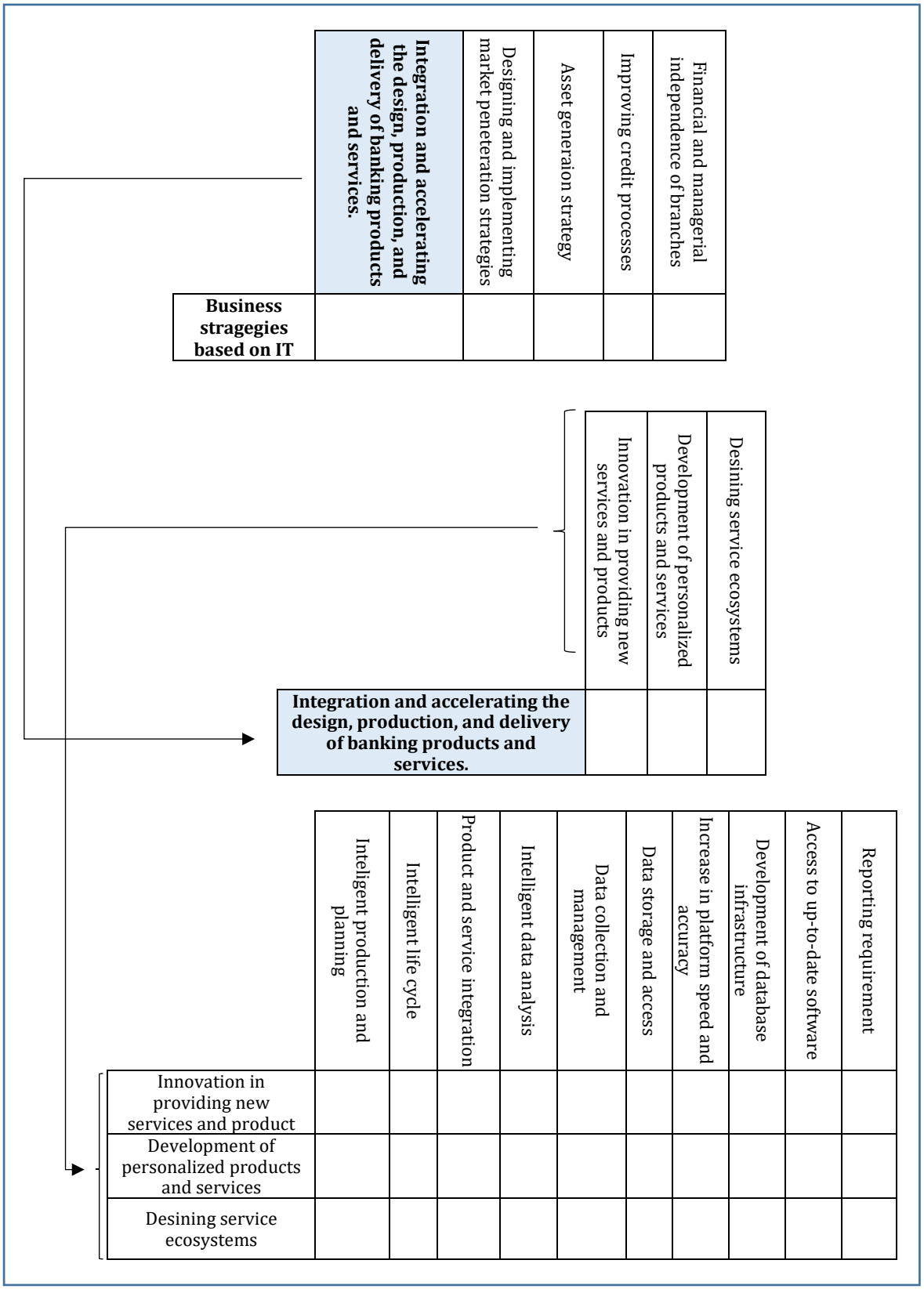
On this basis, in continuation, this process was carried out 5 times for each of the main designed subjects, including integration and acceleration of design, production and delivery of banking products and services, design and implementation of market penetration strategies, asset generation, improvement of credit processes, financial and managerial independence of branches and functions related to each of the main strategic subjects (Loghman Estarki et al., 2019). The first matrix is common in all subsequent stages, but the subsequent matrices change according to the strategies.

The Strategy Matrix First Subject: Integration of Accelerating the Design, Production, and Delivery of Banking Products and Services

In this section, the QFD matrix is designed as follows:

Figure 2.

The Strategy Matrix First Subject: Integration of Accelerating the Design, Production, and Delivery of Banking Products and Services



(Source: Researcher's Findings)

After determining the technical requirements for the integration and acceleration of the design, production, and delivery of banking products and services, the list of technical requirements was submitted for approval by experts. It was found that specific requirements are needed for each of the expected functions of the strategies. The requirements were obtained through the frequency count of experts' opinions. Experts were asked to indicate the technical requirements necessary to implementat and realize each expected function in each row. Experts filled in the matrices by marking the cells, and then the frequency of filled cells indicated the overall opinion of the experts in what order.

Given that the statistical population of the present study consists of 15 experts from Mellat Bank experts who were required to fill out the questionnaire for the technical requirements needed to operationalize the functions of IT-based strategies, the items that were approved by more than 50 percent of the experts, meaning more than 7 experts, were approved, and items approved by 7 or fewer experts were left blank.

Table 1.
Results of Expert Survey for Validating the Matrix of Expected Functional Requirements of the First Strategy

	Inteligent production and planning	Intelligent life cycle	Product and service integration.	Intelligent data analysis	Data collection and management	؟ Data storage and access	Increase in platform speed and accuracy	Development of database infrastructure	Access to up-to-date software	Reporting requirement
Innovation in providing new services and product	9	9	15	12	15	12	3	9	12	12
Development of personalized products and services	6	6	9	12	9	12	12	6	9	9
Desining service ecosystems	6	9	9	12	15	15	3	12	6	15

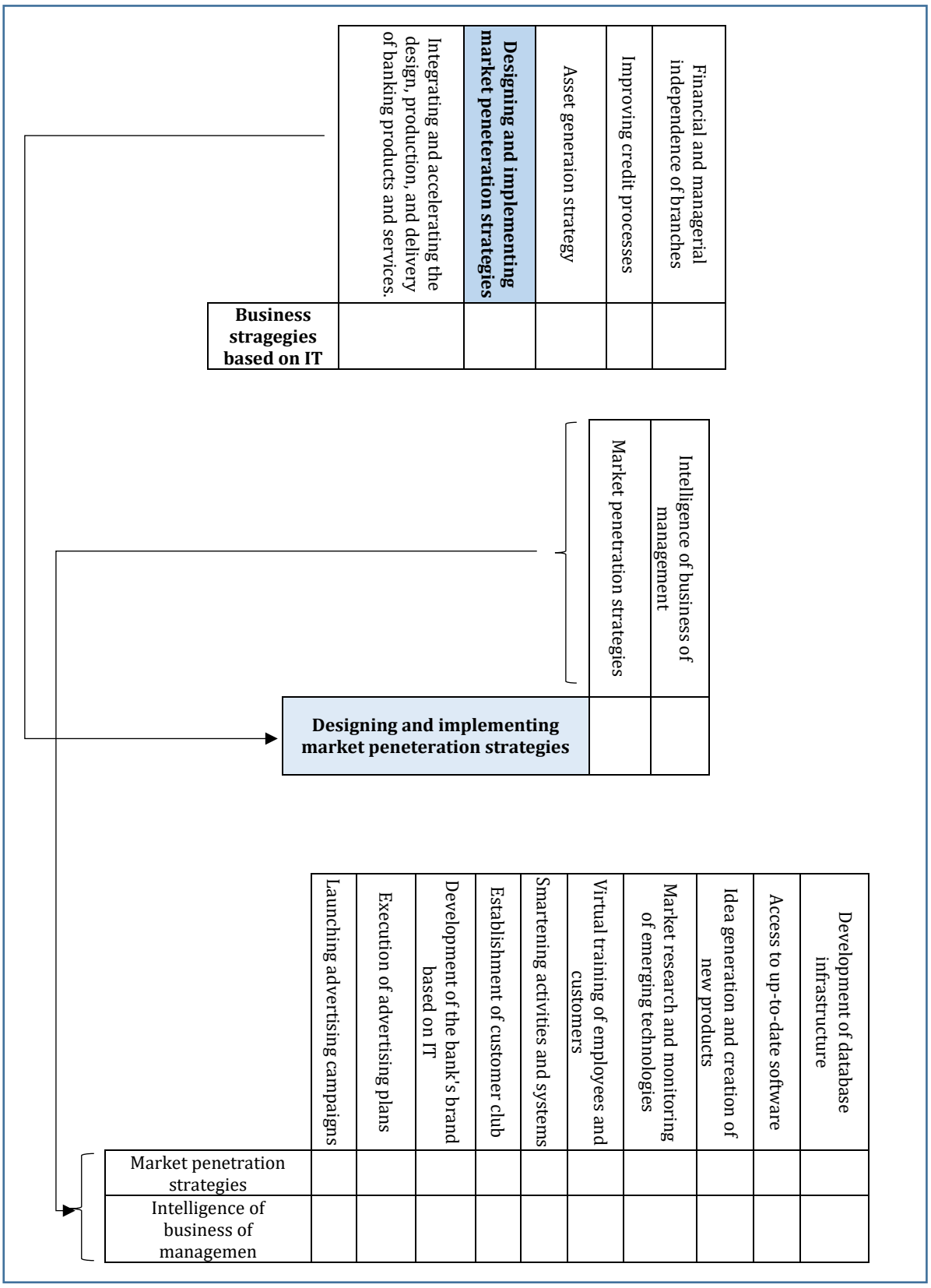
(Source: Researcher's Findings)

Based on the results obtained by experts, the technical requirements of the expected functions of integrating and accelerating the design, production, and delivery of banking products and services have been identified.

The Strategy Matrix Second Subject: Designing and Implementing Market Peneteration Strategies

In this section, the QFD matrix is designed as follows:

Figure 3.
The Strategy Matrix Second Subject: Designing and Implementing Market Peneteration Strategies



(Source: Researcher's Findings)

It was determined that identifying the technical requirements of the design strategy and implementing market penetration strategies are essential. Following the confirmation of the technical requirements list by experts, it was determined that for each of the expected functions of the strategies, specific requirements are necessary.

Table 2.
Survey Results of Experts to Confirm the Technical Requirements Matrix of the Expected Functions of the Second Strategy

	Launching advertising campaigns	Execution of advertising plans	Development of the bank's brand based on IT	Establishment of customer club	Smartening activities and systems	Virtual training of employees and customers	Market research and monitoring emerging technologies	Idea generation and creation of new products	Access to up-to-date software	Development of database infrastructure
Market penetration strategies	9	15	15	9	6	6	15	9	7	12
Intelligence of business of managemen	1	1	3	3	15	12	6	3	15	12

(Source: Researcher's Findings)

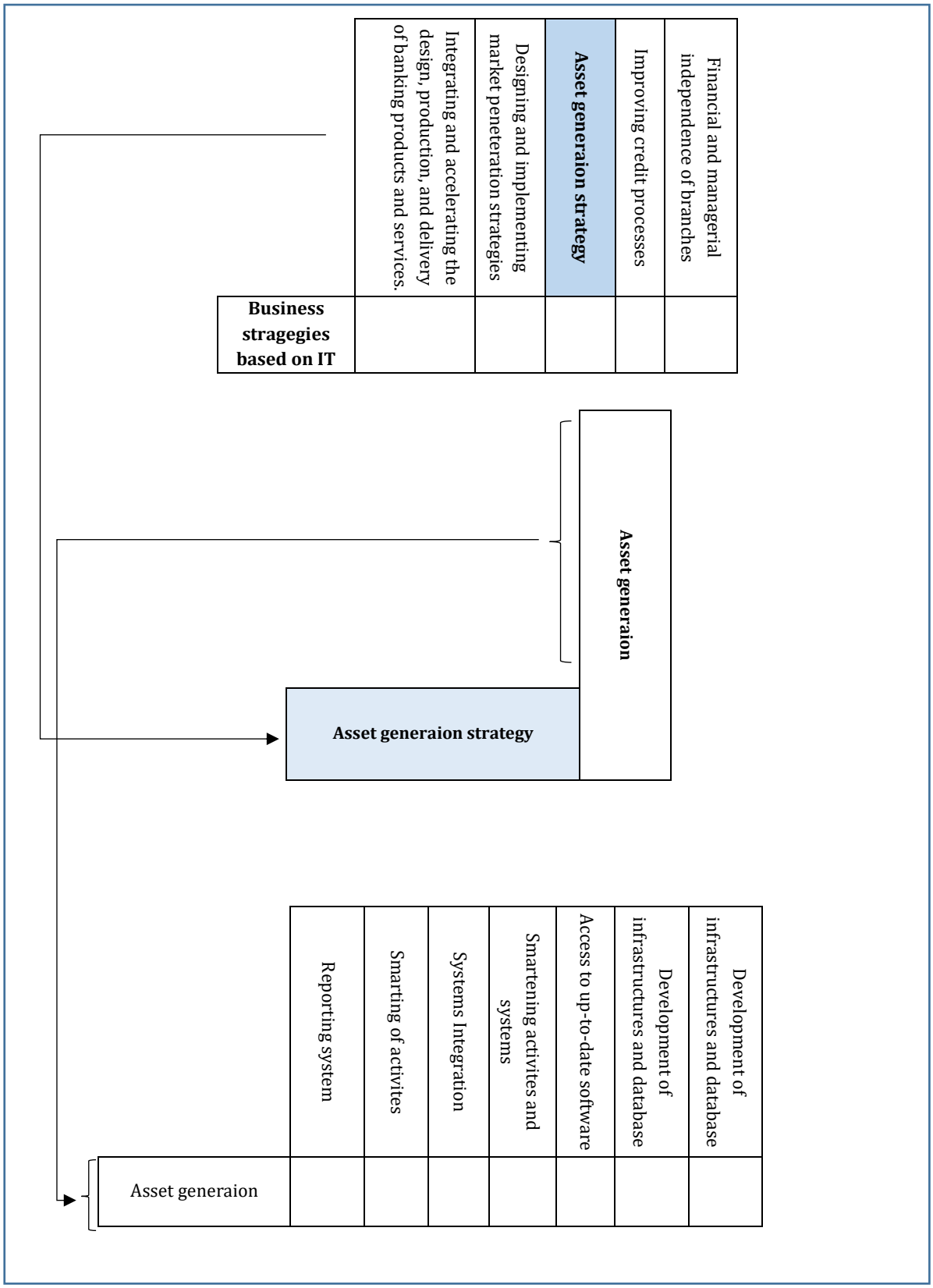
Based on the results obtained by the experts, they identified the technical requirements for designing and implementing market penetration strategies

The Strategy Matrix Third Subject: Asset Generaion Strategy

In this section, the QFD matrix is designed as follows:

After determining the technical requirements of the asset generation strategy, the list of technical requirements was approved by experts and it was found that for each of the expected functions of the strategies, what requirements are needed

Figure 4.
The Strategy Matrix Third Subject: Asset Generaion Strategy



(Source: Researcher's Findings)

After determining the technical requirements of the asset generation strategy, the list of technical requirements was submitted for expert approval, and the requirements needed for each of the expected functions of the strategies were determined.

Table 3.
Expert Survey Results for Confirming the Technical Requirements Matrix of the Expected Functions of the Third Strategy

	Reporting system	Smarting of activites	Systems Integration	Smartening activites and systems	Access to up-to-date software	Development of infrastructures and database	Development of infrastructures and database
Asset generaion	13	11	12	12	12	15	15

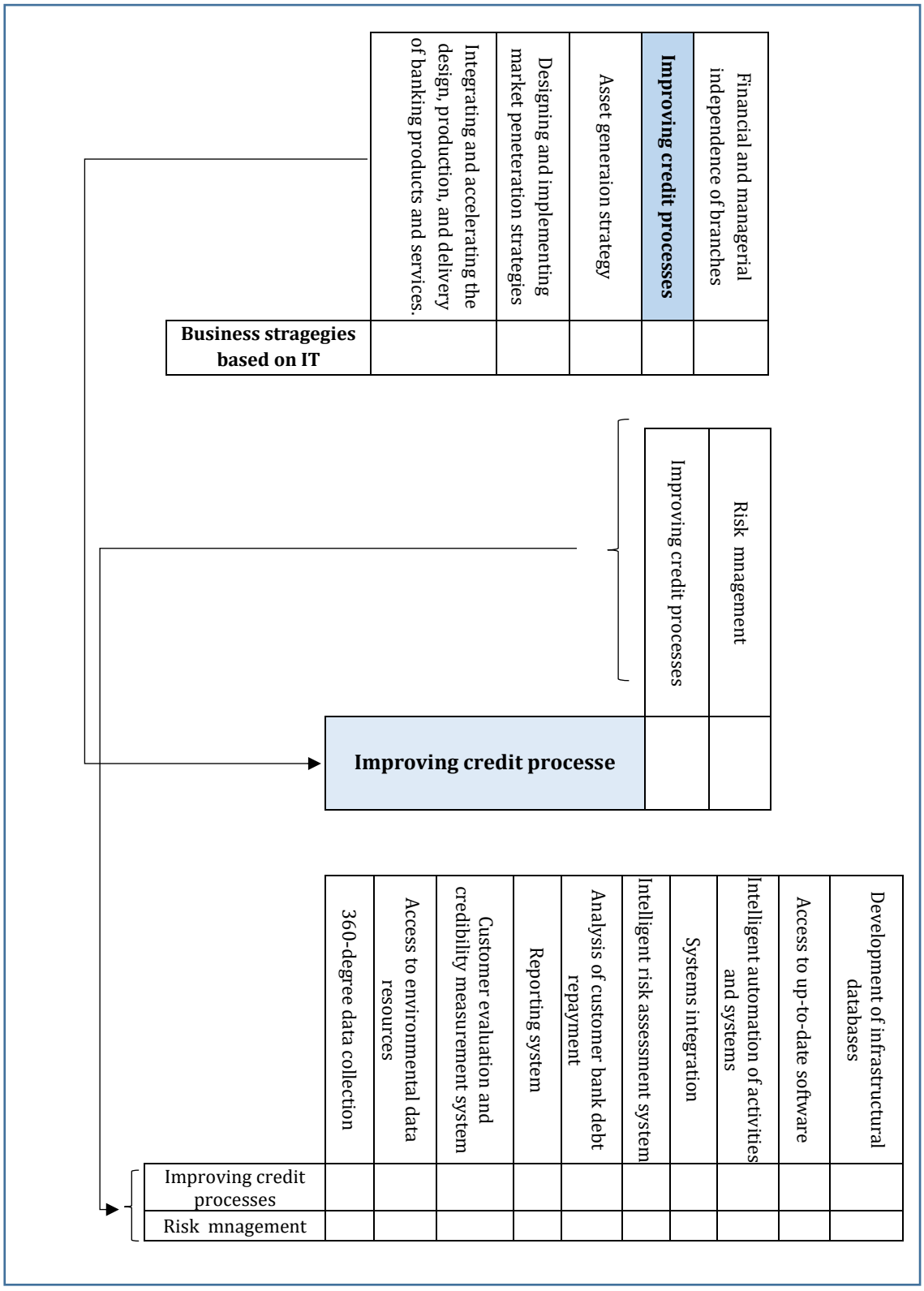
(Source: Researcher's Findings)

Based on obtained the results, the experts identified the technical requirements of the expected functions of asset generation strategy.

Matrix of Subject Matter 4: Improving Credit Processes

In this section, the QFD matrix is designed as follows:

Figure 5.
Matrix of Subject Matter 4: Improving Credit Processes



(Source: Researcher's Findings)

After the technical requirements of the credit process improvement strategy were identified, the list of technical requirements was approved by experts, and the requirements needed for each of the expected functions of the strategies were determined.

Table 4.
Expert Survey Confirmation for Approving the Technical Requirements Matrix of the Expected Functions of the Fourth Strategy

	360-degree data collection	Access to environmental data resources	Customer evaluation and credibility measurement	Reporting system	Analysis of customer bank debt repayment	Intelligent risk assessment system	Systems integration	Intelligent automation of activities and systems	Access to up-to-date software	Development of infrastructural databases
Improving credit processes	9	15	15	15	12	9	12	15	9	15
Risk mnagement	12	12	6	12	9	15	9	9	9	12

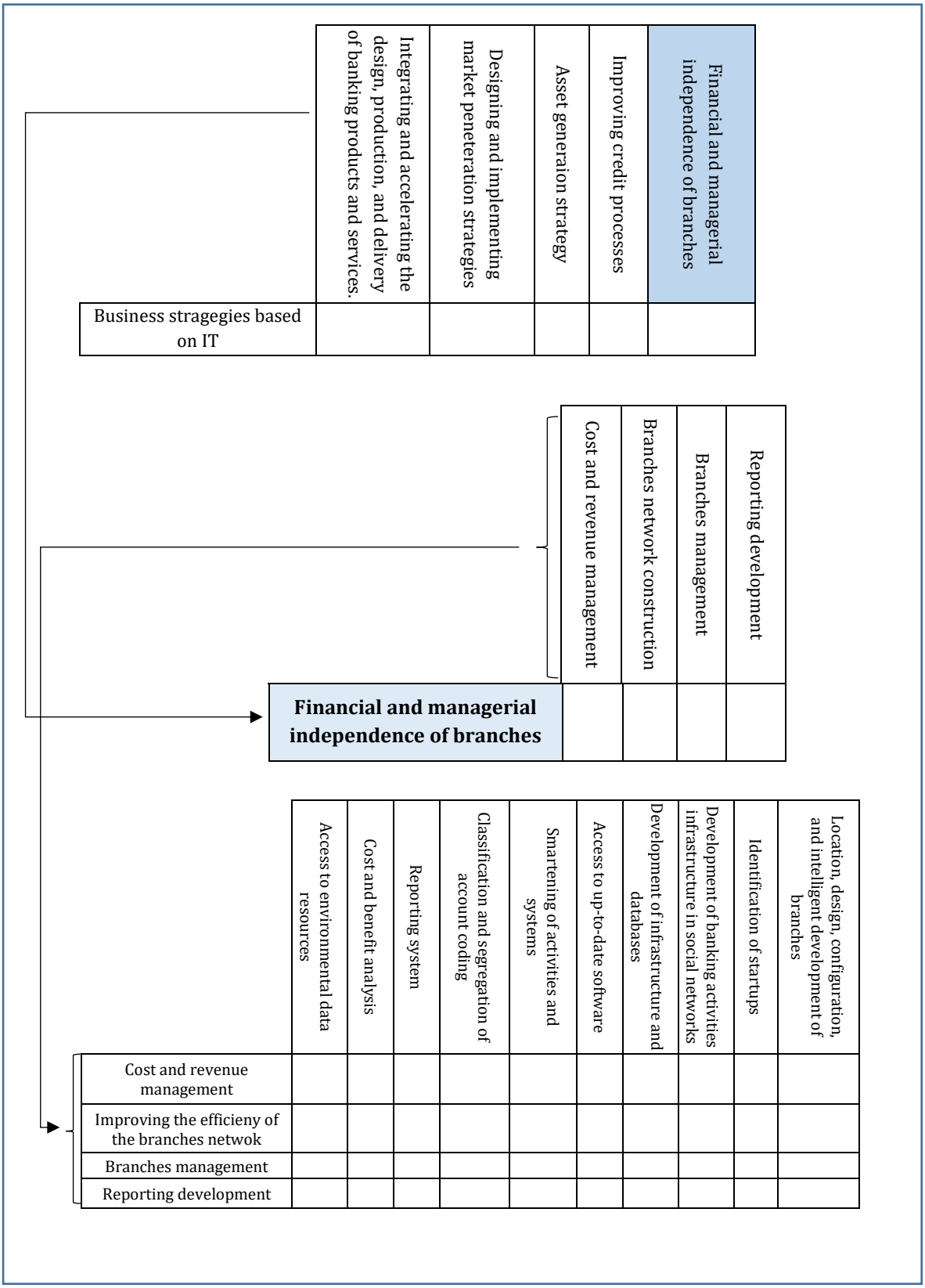
(Source: Researcher's Findings)

Based on the obtained results, the experts identified the technical requirements of the functions for improving the credit processes.

Matrix of Subject Matter 5: Financial and Managerial Independence of Branches

In this section, the QFD matrix is designed as follows:

Figure 6.
Matrix of Subject Matter 5: Financial and Managerial Independence of Branches



(Source: Researcher's Findings)

After determining the technical requirements of the financial and managerial independence strategy of the branches, the list of technical requirements was submitted to the experts for approval, the requirements needed for each of the expected functions of the strategies were determined.

Table 5.
Survey Results of Experts for Confirming the Matrix of Technical Requirements of the Fifth Expected Strategy Functions

	Access to environmental data resources	Cost and benefit analysis	Reporting system	Classification and segregation of account coding	Smartening of activities and systems	Access to up-to-date software	Development of infrastructure and databases	Development of banking activities infrastructure in	Identification of startups	Location, design, configuration, and intelligent development of branches.
Cost and revenue management	9	15	15	12	12	3	9	9	12	6
Improving the efficieny of the branches network	9	6	6	0	15	9	12	3	11	15
Branches management	12	15	9	3	6	6	9	6	6	9
Reporting development	9	0	15	6	3	12	15	3	6	1

(Source: Researcher's Findings)

Based on the results obtained by the experts, the technical requirements of the expected functions of the integrated strategy and acceleration in the design, production, and delivery of banking products and services have been identified.

Discussion and Conclusion

One of the critical challenges for organizations is that many strategic programs are not successfully implemented. By providing the necessary tools and information at various levels of the organization and among top and strategic managers, IT tools enable the organization to implement its strategies effectively. The main objective of this research is to identify the required IT tools for Mellat Bank to implement its strategy through the QFD approach. Based on the results obtained by experts, the technical requirements (IT tools) have been identified to integrate and accelerate the design, production, and delivery of banking products and services, design and implementation of market penetration strategies, asset generation, improvement of credit processes, financial and managerial independence of branches, process agility, diversification and expansion of revenue channels, human capital development, and international banking development.

Given the novelty of the research topic, no cases in the literature have been conducted

in full accordance with the current research to compare their results. In fact, since the results of the present research are obtained through interviews with experts and specialists of Mellat Bank, a precise comparison cannot be made with other studies. Still, in all of the above studies, the importance of IT in strategic management is acknowledged. Hence, in the following, the results of the present research are compared with other studies conducted on a topic close to the present research. In terms of findings, the present study is in line with Meymandpour et al. (2008), Khodari (2017), Rezaei et al. (2018), Galbreath (2003), Ye et al. (2012), Gebczynska (2016), Loghman Estarki et al., (2019), and Strydom and Fourie (2018). In terms of methodology, the present study aligns with Nahavandi (2014). The results of the research suggest that managers emphasize developing infrastructure for database systems to provide an appropriate platform for collecting and managing data from customers, competitors, and the environment. Accordingly, regarding geographical security and environmental factors, a suitable location is required for deploying databases. Additionally, Mellat Bank should procure the necessary hardware and software equipment since it does not have the required technology for constructing them. It should also develop its advertising campaigns and creatively utilize opportunities in social networks. It should expand its purposeful advertising programs and focus its efforts on promoting the role of IT in advancing the strategic goals of Mellat Bank. It is recommended that managers consult with experts in the fields of neural networks, AI, and cognitive sciences from various universities and knowledge-based companies to intelligently automate the activities and processes of Mellat Bank based on the latest findings in computer and cognitive sciences. To improve credit processes and management, it is suggested that Mellat Bank collect necessary environmental data about all essential customer dimensions that can lead to customer credit validation by signing mutual collaboration documents.

REFERENCES

Bashokouh, M., & Shekastehband, M. (2013). The impact of information technology capabilities on business agility. *Journal of Information Technology Management Studies*, *1* (46), pp. 24-1.

Galbreath, J. (2003). An overview of the role of information technology in strategic management: Part I. *Information Technology Management*, *2*(4), 291-311.

Gebczynska, A. (2016). Strategy implementation efficiency on the process level. *Business Process Management Journal*, *22*(6), 1079–1098.

Hakim, A. (2010). *Strategic planning and information technology*. Tehran: Imam Hussein Comprehensive University.

Hosseini, S.F., Khodadad Hosseini, S.H., Kordnaeij, A., & Ahmadi, P. (2014). Presenting a successful implementation model for strategy in Iranian automotive companies. *Iranian Management Journal, 9*(36), 1-24.

Hrebiniak, L. G. (2013). *Making strategy work: Leading effective execution and change*. Upper Saddle River, New Jersey: Pearson Education, Inc.

Jooste, C., & Fourie, B. (2009). The role of strategic leadership in effective strategy implementation: perception of South Africa strategic leaders. *Southern Africa Business Riview*, *13* (3), 51-68.

Jorfi, S., Nor, K.M., & Najjar, L. (2017). An empirical study of the role of IT flexibility and IT capability in IT-business strategic alignment. *Journal of Systems and Information Technology*, *19* (1/2), 2-21, https://doi.org/10.1108/JSIT-10-2016-0067.

Khodari, M. (2017). Investigating the impact of IT and communication technology on improving strategic management in executive institutions of the country. *International Conference on Management*, *Economics, and Marketing*, Tehran, Kosha Gostar Conference Center.

Loghman Estarki, S., Kordnaeij, A., Gholami, E. (2022). The ranking of IT capabilities with regard to strategy implementation process: with AHP approach, *Neuroquantology, 20* (11), 1740-1757.

Loghman Estarki, S., Yazdani, H., Hakim A., & Kurdnaeij, A. (2019). Designing a framework for implementing IT-based strategy capabilities (Case study: An Iranian bank). *Management Research in Iran*, (3)23, 75-103.

Loghman Estarki, Samira. (2020). *Implementation of IT-Centered Strategies*. Tehran: Tarme Publications.

Maqdesi, M.H., & Nahid, M. (2021). Investigating and ranking the factors affecting the implementation of strategy in Iranian banks: A case study of the central administration of Mellat Bank. *Conference on Management, Accounting, and Law Studies*, 5: 194-209.

Meymandpour, R., Bahrami, P., & Bahrami, E. (2008). The impact and applications of information technology in strategic management, *Third International Strategic Management Conference*, Tehran, Institute of Management and Development.

Misankova, M., & Kocisova, K. (2014). Strategic implementation as a part of strategic management. *Journal of social and behavioral science,* 110, 861-870.

Nahavandi, B. (2014). *Development of the methodology for formulating the strategy map in the comprehensive system of strategic management of the organization* [PhD thesis], Tarbiat Modares University, Faculty of Economics.

Rezaei, A., Shahbakhsh, B. & Fayazi, A. (2018). The Role of Information Systems in Effective Implementation of Banking Industry Strategies (Case Study: Maskan Bank Branches in Tehran), *Elite Science and Engineering Quarterly*, *18*(1), 1-18.

Salami, S.T., & Rahmanseresht. A. (2023). Perceived impact of workforce diversity factors on effective strategy implementation. *Journal of Strategic Management Studies, 14* (55), 25-45.

Strydom, K., & Fourie, C. J. S. (2018). The perceived influence of diversity factors on effective strategy implementation in a higher education institution. *Heliyon*, 4(4), 1-24.

Vahidi, H., Shahbazi, S. & Shahrestani, M.S. (2023). Qualitative analysis of effective factors in the successful implementation of strategies in Iranian organizations. *Academic Librarianship and Information Research, 54*(4), 1-20.

Valiyan, H., Hajikoshki Jahromi, A., & Boudlaei, H. (2017). Designing a model of information technology capabilities in government organizations. *Journal of Information Technology Studies*, *20*, 40-45.

Yeh, C.H., Lee, G.G. and Pai J.C. (2012). How information system capability affects e-business information technology strategy implementation, *Business Process Management Journal, 18*(2), 197-218.