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The role of financial agility as a driving force for improving data-driven innovation capabilities: an applied study

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Abstract

The purpose of the research is to measure the role of financial agility, represented by (organizational factors, technological factors, human factors, technical and contextual factors, and structural and legal factors), as a driving force for improving data-driven innovation capabilities, represented by (marketing orientation capabilities, infrastructure capabilities, and innovation talent capabilities), among a sample of employees in financial intermediation companies in thi-qar province, including seven companies (al-zaamili, al-qand iq, fnjn, acad, al-jihad, al-nawafith, al-ehab). Due to the importance of financial agility, which has emerged as a necessity after the rapid changes witnessed in the business environment, characterized by the speed and diversity of changes, some companies have been able to adapt to these transformations and have succeeded in entering the competitive market with strength, while others have suffered from the challenges resulting from that environment, where they are now facing difficulties in maintaining their position due to the challenges imposed by market opportunities and threats. Accordingly, the research problem was formulated in the form of a main question: (does financial agility act as a driving force for improving data-driven innovation capabilities among a sample of employees in financial intermediation companies in thi-qar province?), and to achieve the main objective of the research, the study relied on the questionnaire as a primary tool for collecting the necessary data, as (100) questionnaires were distributed to the employees the concerned companies, and retrieved (83) statements, of which (7) are defective, and (76) are valid for analysis,

which indicates that the sample response rate reached (76%). To analyze the research outputs, two statistical programs were adopted: (spss & amos.v.29) for extracting targeted tests. Accordingly, the research presented several results, the most important of which is the existence of a relationship and impact between financial agility and data-driven innovation capabilities, meaning that financial agility is considered a major factor in enabling companies to improve their data-based creative capabilities, as it allows them flexibility in managing financial resources and fully utilizing opportunities, thereby enhancing their ability to innovate and adapt to market changes more effectively. The research also recommended that companies should focus on establishing flexible financial plans that respond to rapid market changes, which in turn requires continuous re-evaluation of financial resources and ensuring their effective allocation to support innovation.

Keywords: financial agility, creative capabilities, data, brokerage firms.

Introduction

Amid the rapid and changing transformations in the business environment, corporate agility and the ability to adapt to changes have become a fundamental element of their success and sustainability (probojakti et al., 2025:671), as the concept of financial agility is one of the modern concepts that focuses on the ability of organizations to manage their financial resources flexibly and effectively to face challenges and invest in available opportunities simultaneously (edu, 2022:573). Additionally, reliance on data and its analysis has become a key tool for enhancing innovation processes and decision-making, enabling companies to develop creative capabilities that align with market demands and the availability of massive data (sihotang et al., 2024:85). The significance of the current study stems from the need to understand how financial agility can contribute to improving data-driven innovation capabilities, particularly in companies operating in the financial sector, such as brokerage firms in thi-qar (abbas & ali, 2024:166), which face competitive pressures and economic volatility. This study aims to identify the role that financial agility plays in supporting and enhancing creative and continuous development capabilities, ensuring the strengthening of their competitiveness in the market (almashhadani & almashhadani, 2023:128).

On the other hand, financial intermediation companies play a crucial role in directing investments and analyzing data by providing precise insights that contribute to sound investment decisions (adewale et al., 2023:6). These companies have an exceptional opportunity to leverage modern technologies such as artificial intelligence and big data

analytics to enhance their adaptability to market demands, which strengthens their innovation capabilities and makes them more flexible in facing challenges (george, 2024:89). Additionally, achieving financial agility requires these companies to adopt effective strategies that focus on data-driven innovation, which contributes to creating a work environment that encourages creative thinking and the development of new solutions (zareravasan, 2023:1293).

Furthermore, the importance of financial agility in enhancing employees' creative capabilities is highlighted (malatyinszki et al., 2024:6), where it requires companies to provide employees with the tools and knowledge necessary for analyzing data and using it in developing new strategies. When employees feel equipped with the data and tools needed (rafi et al., 2022:400), they are more willing to propose new ideas and innovative solutions, which contributes to improving the company's overall performance (munawar et al., 2023:31). Thus, it becomes essential for financial intermediation companies to recognize how financial agility can positively impact creativity and strengthen employees' ability to innovate (masai et al., 2024:9).

In addition, the relationship between financial agility and data-driven innovation capabilities calls for an examination of how organizational culture affects this relationship (medeiros & maçada, 2022: 955). Fostering innovation in the workplace requires a culture that encourages risk-taking and experimentation, where mistakes are considered part of the learning and innovation process (sardiana & sawmong, 2025: 23). Therefore, companies should be aware of how to create a work environment that enhances idea sharing and encourages employees to use data innovatively, leading to improved decision-making effectiveness (mata et al., 2024: 1120).

Part one: research methodology

First: research problem

Financial agility is one of the key factors that contribute to improving company performance; however, there is a lack of understanding among employees in financial intermediation companies regarding the mechanisms through which this agility impacts data-driven creative capabilities, leading to the underutilization of available potential (rauf et al., 2024: 96). Many companies face challenges in integrating big data into their strategies, which hinders their ability to innovate and adapt to rapid market changes. This

knowledge gap suggests that companies may not realize how financial agility can enhance creativity (bhatti et al., 2024: 801), thereby missing valuable opportunities to improve overall performance and increase market competitiveness. Additionally, the organizational culture in many financial intermediation companies may not support innovation, limiting employees' ability to use data effectively (chatterjee et al., 2024: 611). When the work environment is not conducive to experimentation and risk-taking, employees struggle to take the initiatives necessary to develop new ideas. This culture can reduce the motivation for creativity, negatively impacting the company's ability to respond to market challenges and opportunities. Therefore, it is important to study the impact of organizational culture on the relationship between financial agility and creativity (tigre, 2024: 225).

From another perspective, it is observed that companies lack the capabilities that support the relationship between financial agility and creative potential, making it difficult for these companies to identify the best strategies to enhance this relationship (alyahya et al., 2023:7629), as clear models have not yet been developed to explain how financial factors influence the creativity of employees. Thus, this shortage of appropriate tools may lead to uncertainty in administrative decision-making and could hinder companies from investing resources effectively. Therefore, in-depth research is required to better understand these dynamics (luo, 2022:784).

In addition to this, financial intermediation companies face challenges related to information technology and how to use it to enhance financial agility and foster creativity (sahid et al., 2023: 124). With rapid technological advancement, companies must be able to integrate modern technologies into their daily operations. However, the lack of compatibility and balance between current systems and new requirements may hinder companies' ability to effectively leverage data (setiawati et al., 2022: 83), which necessitates studying how to improve the technological infrastructure to facilitate this integration. Based on the above, the research problem can be formulated in the following main question: (does financial agility act as a driving force to improve data-driven innovation capabilities among employees in financial intermediation companies in thi-qar province?), and to address the raised problem, several solutions must be identified for the following sub-questions:

1. What is the level of financial agility and data-driven innovation capabilities among financial brokerage firms?

2. What is the relationship between financial agility and data-driven innovation capabilities among employees in financial brokerage firms?

3. How do agility factors affect this relationship?

4. What strategies can companies adopt to enhance financial agility and innovation simultaneously?

5. How can technology usage be improved to enhance financial and creative performance?

6. What are the main obstacles that financial intermediation companies face in achieving these goals?

Second: the importance of the research

Due to the financial resources, rich history of achievements, and prestigious market position enjoyed by most financial companies, and to maintain their natural position in the face of the general dynamism of the business environment and the specific financial environment, as well as the uncertainty that has become a characteristic of the external environment due to rapid changes, intense competition, and shifting customer tastes and preferences, it has become imperative and an unavoidable necessity for companies to adopt the financial agility approach, which is based on their ability to adapt to various transactions, as well as their speed in responding to these challenges. Therefore, the importance of financial agility lies in its being the means used by companies to enhance their financial adaptability in the face of external developments in order to leverage available opportunities for financial gains and adapt to threats to maintain financial stability.

As the importance of this research is evident in identifying the significant role that financial agility plays in enhancing data-driven creative capabilities among employees in financial brokerage companies. With the rapid pace of economic and technological changes, companies' ability to adapt and innovate becomes essential for remaining competitive, which necessitates understanding the relationship between financial resource management and creativity. By studying this relationship, valuable insights can be provided to help companies achieve better results, where financial agility can lead to improved data analysis and evidence-based decision-making, thereby strengthening the effectiveness of innovation and increasing competitiveness.

Third: the objectives of the research

The current research aims to measure the role of financial agility, represented by (organizational factors, technological factors, human factors, technical and contextual factors, and structural and legal factors) as a driving force for improving data-driven innovation capabilities, represented by (marketing orientation capabilities, infrastructure capabilities, and innovation talent capabilities) among a sample of employees in financial intermediation companies in thi-qar province, including seven companies (al-shatrah, as-sudd, al-aqad, al-koufeh, al-jihad, al-ayhab, and nawafwah al-iraq). The research also aims to highlight the challenges faced by financial intermediation companies in achieving financial agility, and how these challenges can affect the creative capabilities of employees. A deep understanding of these challenges can help companies develop appropriate strategies to overcome them. By analyzing the factors that hinder innovation, practical recommendations can be provided based on real data, which contributes to improving the company's overall performance. Therefore, this study is not only academic but also seeks to provide practical and direct solutions that can benefit companies in improving their performance. The research also aims to achieve the following sub-objectives:

1. Determining the level of financial agility and data-driven innovation capabilities among the concerned financial intermediation companies.

2. Identifying the relationship between financial agility and data-driven innovation capabilities among employees in financial brokerage companies.

3. Measuring the effect of agility factors on the relationship between financial agility and data-driven innovation capabilities.

4. Identifying the strategies that companies can adopt to enhance financial agility and innovation simultaneously.

5. Outlining the mechanisms through which technology usage can be improved to boost financial and innovative performance.

6. Identifying the main barriers that financial intermediaries face in achieving these goals.

Fourth: the hypothetical plan and hypothesis development

The hypothetical research design represents a crucial foundation in interpreting and defining the relationship between the different variables of the research by helping to provide a framework that can organize ideas and identify important variables. It also aids in analyzing and interpreting research results, presenting complex ideas and concepts in a better and more precise way that facilitates understanding. This, in turn, contributes to identifying and addressing the research problem and achieving the goal set to address it. Therefore, figure (1) represents the research hypothetical design in light of two variables, which are:

The independent variable: represented by financial agility, and this variable is measured through five dimensions, which are (organizational factors, technological factors, human factors, technical and contextual factors, and structural and legal factors).

The dependent variable: it includes data-driven innovation capabilities, and this variable is measured through three dimensions, which are (marketing orientation capabilities, infrastructure capabilities, and innovation talent capabilities).

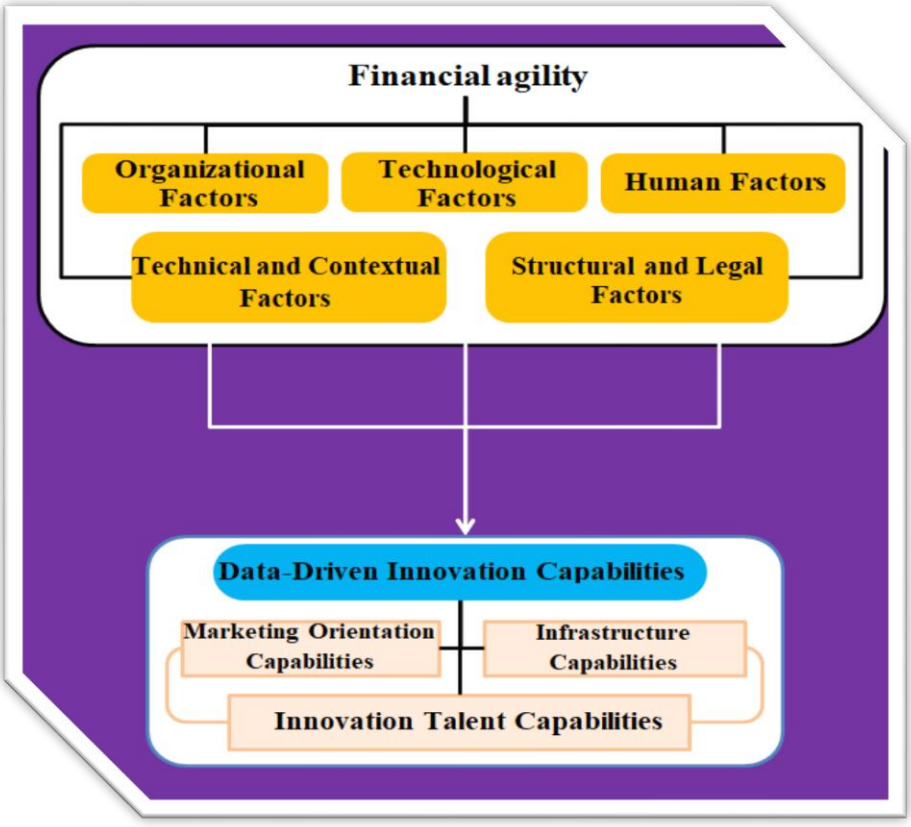

Figure (1) the hypothetical model of the research

Source: prepared by the researcher

Constructing the hypothetical plan contributes to the development of two hypotheses:

H1: there is a significant correlation between financial agility and data-driven innovation capabilities, and from it emerges:

1. There is a significant correlation between organizational factors and data-driven innovation capabilities in their dimensions.

2. There is a significant correlation between technological factors and data-driven innovation capabilities in their dimensions.

3. There is a significant correlation between human factors and data-driven innovation capabilities in their dimensions.

4. There is a significant correlation between technical and contextual factors and data-driven innovation capabilities in their dimensions.

5. There is a significant correlation between structural and legal factors and data-driven innovation capabilities in their dimensions.

H2: there is a significant effect of financial agility on data-driven innovation capabilities, and from it emerges:

1. There is a significant effect of organizational factors on data-driven innovation capabilities in their dimensions.

2. There is a significant effect of technological factors on data-driven innovation capabilities in their dimensions.

3. There is a significant effect of human factors on data-driven innovation capabilities in their dimensions.

4. There is a significant impact of technical and contextual factors on data-driven innovation capabilities across all dimensions.

5. There is a significant impact of structural and legal factors on data-driven innovation capabilities across all dimensions.

Fifth: the research sample

Represents the research community in financial brokerage companies in thi-qar province, as these companies have contributed to the success and sustainability of banking and financial operations. The research sample consisted of employees in financial brokerage companies, totaling seven companies (al-zaamili, al-qand iq, fnjn, acad, al-jihad, al-nawafith, al-ehab). Therefore, (100) questionnaires were distributed to employees in the concerned companies, of which (83) were retrieved, with (7) invalid questionnaires and (76) valid questionnaires for analysis. This indicates that the response rate of the sample reached (76%).

Part two: the theoretical aspect

First: financial agility

1. The concept of financial agility

Financial agility refers to the ability of individuals or organizations to adapt quickly to financial changes and unforeseen circumstances while maintaining financial stability and the ability to achieve financial goals (zahedi et al., 2022: 178), meaning it is not just about budgeting, but rather a flexible approach to managing finances that includes financial planning, risk management, and adapting to changes (khlilzade et al., 2021: 446). It is the ability to adapt quickly and effectively to changing market conditions, economic challenges, and internal priorities. It is a key attribute for companies seeking to maintain flexibility, drive growth, and seize opportunities in a competitive environment (khalilzadeh et al., 2022: 123). Without financial agility, organizations risk falling behind and struggle to face challenges or capitalize on emerging opportunities. On the other hand, companies that prioritize flexibility enable themselves to make well-considered financial decisions, allocate resources precisely, and stay ahead of market demands (saad & al-mahmoud, 2020: 3).

And darabpour & molla (2023:14) define financial agility as the company's ability to respond quickly and effectively to changes, whether they result from external market conditions, internal challenges, or advanced customer needs. It includes the extent to which the organization can adapt its strategies, operations, and financial decisions to ensure long-term stability and growth. Financial agility enables companies to adapt rapidly when facing economic uncertainty (moridu & abidin, 2023:35), adjust budgets when priorities change, and invest in opportunities as they arise. More importantly, it is not just about responding to change but also about being prepared for it, ensuring systems and processes are sufficiently

flexible to face challenges directly (mittal, 2024:1167). Ahmad (2025:33) noted that it is the ability to handle unexpected problems, persevere in a business environment fraught with unprecedented threats, and seize opportunities presented by change. Companies with high adaptability adjust to market changes more effectively than their competitors. Financial flexibility means having the financial ability, along with business operations and technologies, that enable it to reallocate capital quickly with changing market conditions (guo & wang, 2025:3).

It can be said that financial agility represents a close alignment of the company with changing business needs, to gain a competitive advantage, through the company's reliance on flexibility and responsiveness to keep pace with changes in the external environment and reach the goals that companies strive to achieve.

2. The importance of financial agility

Financial agility is a critical factor for the success and sustainability of companies in a changing business environment, as it enables the organization to quickly adapt to economic and financial fluctuations, reduce risks, and achieve efficiency in resource management (celestin,2017:653). It contributes to enhancing the ability to invest in new opportunities, improving financial performance, and supporting sustainable growth (odekunle,2024:12). It also helps companies to face unexpected challenges efficiently, reduce costs, and increase the ability to make strategic decisions quickly, making it a key to maintaining the company's competitiveness and sustainability in the market (edo-osagie,2025:1065). Financial agility works to improve companies' ability to leverage available opportunities optimally and avoid threats, based on the flexibility and speed of maneuvering in the financial resources they possess to achieve financial sustainability (arnold,2021:11). The importance of companies with financial agility is highlighted in (tan, 2011: 3907); (darabpour et al., 2021: 63):

A. Building a stronger balance sheet with greater cash liquidity, including higher working capital.

B. Improving operations to accelerate cash inflows and accurately forecast cash outflows.

C. Conducting periodic reviews of data related to cash and capital allocations.

D. A comprehensive focus on operational efficiency to reduce cash flow "leakages."

E. A comprehensive assessment of the strength of the company's balance sheet and its focus on it, in addition to the profit and loss statement.

3. Dimensions of financial agility

Financial agility can be measured through five important dimensions (khalilzadeh et al., 2022):

a. Organizational factors: organizational factors are among the most important dimensions of financial agility, as they significantly affect a company's ability to adapt to market and environmental changes. These factors include the administrative structure, internal policies, and organizational culture that facilitate or hinder quick decision-making and operational flexibility (khalilzadeh et al., 2022: 123). Companies with agile organizational factors can quickly adjust their strategies and allocate resources effectively, which enhances their financial fitness and increases their ability to handle market volatility and achieve financial performance sustainability (ahmad, 2025: 34).

b. Technological factors: technological factors enable companies to improve efficiency and reduce costs by adopting advanced technological systems and procedures. Technology provides tools for more accurate and effective financial analysis, forecasting, and risk management, which facilitates quick and flexible decision-making (khalilzadeh et al., 2022: 123). Additionally, technological factors help improve production and service processes, reduce waste and time, and increase the ability to adapt to market changes. Therefore, companies that rely on modern technology enjoy greater financial agility and are more capable of efficiently and effectively addressing financial and economic challenges, which strengthens their sustainability and competitive advantage (celestin, 2017: 653).

c. Human factors: human factors form a fundamental basis of the dimensions of financial agility, as they relate to the efficiency and flexibility of the company's employees, which includes employee skills, the level of motivation, and their importance in making financial decisions quickly and effectively (ahmad, 2025: 34). Thus, a flexible and learning-oriented employee contributes to improving financial performance through adapting processes and strategic innovation, while the presence of capable leaders helps enhance the ability to leverage opportunities and reduce financial risks, especially in the face of sudden changes (khalilzadeh et al., 2022: 123).

d. Technical and contextual factors: technical and contextual factors play a crucial role in strengthening the financial agility of companies, and include technical factors such as the

technologies and systems used in managing financial operations, such as financial information systems and digital analytics, which enable quick and accurate financial decisions (darabpour & molla, 2023: 14). As for contextual factors, they determine the availability of facilities and services offered, such as the ability to manage inventory, supply flexibility, and operational process organization (celestin, 2017: 653).

e. Structural and legal factors: structural and legal factors are fundamental dimensions of financial agility, as the company's structure and legislation affect its flexibility and effectiveness in dealing with financial challenges (khalilzadeh et al., 2022: 123). Structural factors include the design of the organizational structure, the distribution of powers, and the management system, which determine the company's ability to make decisions quickly and flexibly (sultana et al., 2024: 865). Legal factors represent the regulations and laws that must be adhered to, which can impact the flexibility of financial operations and investment expansion. Additionally, the availability of a stable and flexible regulatory environment enhances companies' ability to adapt effectively to market changes, reduces legal risks, and supports financial sustainability (ahmad, 2025: 34).

Second: data-driven innovation capabilities

1. The concept of data-driven innovation capabilities

Living in the era of the data economy, which is supported by digital innovations, has led to an enormous growth in data at an astonishing rate, where trillions of precise data points are produced every second. Data has now become an integral part of the ongoing competitive advantage for data-driven companies, and has shaped a major driver of growth in emerging industries, by providing unprecedented insights into customers and competitors (sultana et al., 2022: 132). Companies can also benefit from accumulated knowledge to build effective marketing strategies and adapt to the dynamic environment necessary for innovation (ravat et al., 2024: 113).

As a fundamental principle, data-driven innovation strengthens the data-centric digital economy globally, enabling the capabilities derived from this innovation to empower companies to surpass their competitors and lead sectors (eriksso & heikkilä, 2023:161). Data-driven innovation can be defined as a series of innovation processes that apply techniques (such as big data analytics) and technologies (such as artificial intelligence, deep learning, and artificial intelligence) to extract valuable insights from data for achieving innovative outcomes. By applying data-driven innovation in operations, research and

development, the development of new products and services, marketing, and management, companies can achieve sustainable competitive advantages (pietronudo et al., 2022:867). The administrative, technological, and human capabilities required to achieve data-driven innovation can be referred to as data-driven innovation capabilities (bhatti et al., 2024:801).

Chatterjee et al. (2024:603) noted that data-driven innovation is a fundamental component. Academic studies describe it as a commercial innovation that is largely based on data exploitation and capable of generating positive economic and social impacts. As companies seek new ways to use data and analytics to support decision-making processes, improve organizational operations, or develop new methodologies to address challenges and create added value for customers (trabucchi & buganza, 2019: 26), they engage in innovation because they expect to reap economic benefits. Digitalization has led to the accumulation of massive amounts of data daily for many companies (lozada et al., 2023: 682).

Based on the above, data-driven innovation capabilities can be defined as the ability to use and analyze data in innovative and creative ways to achieve new insights and conclusions. These capabilities include collecting data, deeply understanding it, and investing in developing innovative solutions and strategies that contribute to improving organizational performance and making smart decisions. They rely on integrating creative thinking with analytical skills, transforming data into creative ideas and initiatives that support innovation and lead to competitive advantages and business sustainability in a changing environment.

2. The importance of data-driven innovation capabilities

Data-driven innovation capabilities are extremely important in the modern business world, as they enable organizations to transform data into innovative ideas and solutions that enhance their competitiveness (ylijoki et al., 2018:166). They help in discovering new trends, developing innovative products and services, and improving decision-making processes quickly and accurately (kissi, 2024:116). They also contribute to effectively investing in data to translate information into strategic insights that support sustainable growth (schymanietz & jonas, 2020:3). These capabilities also increase companies' ability to adapt to market changes and embrace innovation, thereby strengthening their competitive position and long-term sustainability (babu et al., 2024:689).

Data-driven innovation capabilities are, in practice, information-based processes, and they typically develop within specific functional domains. However, they can also evolve

through diverse sets of resources at the organizational level, similar to what was mentioned above. Previous research indicates that the company's capabilities are a critical factor influencing overall innovation (pietronudo et al., 2022:867). Creative capabilities arise from knowledge-creation processes that combine internal research and development activities, knowledge from internal and external sources. Furthermore, capabilities are crucial for how the organization creates new knowledge based on existing knowledge, i.e., the transition from using knowledge to creating knowledge (awan et al., 2017:169). Creative capabilities form the core of digital innovation capability, and both consist of several components. In addition to marketing and technological capabilities, which are one dimension of digital innovation capability (chatterjee et al., 2024:603).

3. Dimensions of data-driven innovation capabilities

Data-driven innovation capabilities can be identified and measured through three important dimensions (alghamdi & agag, 2024):

a. Marketing orientation capabilities: this dimension focuses on accurately analyzing and understanding market data and the target audience. It contributes to developing innovative data-driven marketing strategies, which enhances the effectiveness of advertising campaigns and achieves business goals (alghamdi & agag, 2024:6). This dimension strengthens organizations' ability to adapt to market changes, encourages innovation in offering products and services, and allows for data investment to analyze customer behavior and understand their preferences, which contributes to building strong and motivating loyalty relationships. In short, it is a core element for guiding campaigns creatively and wisely (ylijoki et al., 2018:166).

b. Infrastructure capabilities: this dimension reflects the ability to provide a strong and advanced technological infrastructure that supports the collection and analysis of data efficiently. It contributes to enabling innovation strategies by providing teams with advanced tools and technologies, including cloud computing, big data, and security systems (lozada et al., 2023:682). It also strengthens the speed of response and follow-up in marketing and creative processes, allowing for improved decision-making processes and operational efficiency, which supports continuous innovation and ensures effective data utilization to achieve competitive advantage. In short, it is a fundamental importance for enabling creative data-based models (alghamdi & agag, 2024:6).

c. Innovation talent capabilities: this dimension is one of the most important aspects of data-driven innovation capabilities, as it focuses on investing in and developing the creative skills and abilities of individuals through data analysis and identifying performance patterns and competencies (pietronudo et al., 2022: 867). It also contributes to recognizing unique talents and enhancing them, directing training and development in a targeted manner, and this dimension strengthens the ability of organizations to build an inspiring environment that supports innovation, while providing continuous tools for measuring and evaluating the level of creativity and individual contribution (sultana et al., 2022: 132).

Part three: practical aspect

First: description and coding of variables

This paragraph introduces variables in research through a set of symbols, to facilitate the researcher's understanding of the level of interpretation and analysis in the aspect of research variables, in addition to building a broad perception of the importance of interest in financial agility, data-driven innovation capabilities, and table (1) explains the coding of the measurement tool.

Table (1): coding of the measurement tool

Variables	Dimensions	No.	Code		Source
Financial agility	Organizational factors	2	**Fiag**	**Faof**	**Khalilzadeh et al.,2022**
	Technological factors	2		**Fatf**	
	Human factors	2		**Fahf**	
	Technical and contextual factors	2		**Fatc**	
	Structural and legal factors	2		**Fasl**	
Data-driven	Marketing	9	**Ddic**	**Dimo**	**Alghamdi&**

innovation capabilities	orientation capabilities				**agag,2024**
	Infrastructure capabilities	7		**Diic**	
	Innovation talent capabilities	6		**Diit**	

Second: testing the moderation of the measurement tool

The results in the table below indicate that the data drawn from the research community follows a normal distribution at a level higher than (0.05), which means that the data entering the analysis is subject to a normality test. Additionally, the alternative hypothesis, which posits the absence of a normal distribution, is rejected, while the null hypothesis, which states the existence of a normal distribution, is accepted.

Table (2): testing the moderation of the measurement tool

	Kol-smi			
	Statistic		**Sig.**	
Faof	0.216		0.179	
Fatf	0.283		0.196	
Fahf	0.211	**0.203**	0.178	**0.189**
Fatc	0.286		0.128	
Fasl	0.284		0.162	
Dimo	0.302		0.186	
Diic	0.235	**0.272**	0.149	**0.153**
Diit	0.218		0.102	

Third: reliability of the measurement tool

The dimensions of the measurement tool exhibited good stability, as shown in table (3), specifically for cronbach's alpha coefficients, since all results ranged between (0.802 – 0.917), which are statistically acceptable values in administrative and behavioral research. This is because the values are higher than the required standard of (0.70), which means the stability of the measurement tool is attributed to the variables that contributed to explaining the issues governing the studied hospital. Financial agility and data-driven innovation capabilities, respectively, contributed (0.935, 0.923), indicating consistency between the measurement tool's sections and the studied sample.

Table (3): reliability of the measurement tool

Variables		Cronbach's alpha coefficients		
		Dimensions	**No.**	
Financial agility	0.935	Organizational factors	2	0.802
		Technological factors	2	0.864
		Human factors	2	0.812
		Technical and contextual factors	2	0.911
		Structural and legal factors	2	0.915
Data-driven innovation capabilities	0.923	Marketing orientation capabilities	9	0.917
		Infrastructure capabilities	7	0.877
		Innovation talent capabilities	6	0.840

Fourth: statistical description of the research dimensions and variables

The variable financial agility fiag, according to the results in table (4), achieved an average score of (3.55) and a standard deviation of (0.47), yielding a relative importance of (0.71),

which indicates that the employees in financial brokerage companies in thi-qar are committed to investing in financial agility to achieve adaptation to the rapid environmental changes in the job market by flexibly utilizing available resources. This enables employees to enhance their capabilities in making creative decisions. Perhaps the attainment of this variable to these criteria and good indicators is due to the human factors fahf dimension, which was supported with an average score of (3.75) and a standard deviation of (0.49), yielding a relative importance of (0.75). Meanwhile, the organizational factors faof dimension ranked last with an average score of (3.31) and a standard deviation of (0.72), yielding a relative importance of (0.66). This means that financial agility contributes to building positive financial results by improving performance and increasing productivity, making the concerned companies more capable of effectively using data. This, in turn, leads to increased revenues and profits and improved profitability, thereby strengthening its sustainability.

While the variable "data-driven innovation capabilities ddic" achieved an average score of (3.42) and a standard deviation of (0.63), yielding a relative importance of (0.68), this indicates that employees in financial intermediation companies in thi-qar province focus on improving operational efficiency through cost reduction and productivity enhancement, which enables employees to access data faster and make better decisions, thereby improving the overall performance of the companies. Perhaps this variable's attainment of these criteria and good indicators is due to the "marketing orientation capabilities dimo" dimension, which was supported by an average score of (3.59) and a standard deviation of (0.66), yielding a relative importance of (0.72). Meanwhile, the "innovation talent capabilities diit" dimension ranked last with an average score of (3.24) and a standard deviation of (0.65), yielding a relative importance of (0.65), which means employees in financial intermediation companies in thi-qar province are interested in strengthening a culture of innovation by creating a work environment that encourages innovation. This is due to providing the necessary and flexible resources that enable employees to experiment with their new ideas and use data to make these ideas real and practical, thereby improving the effectiveness of the companies.

Table (4): outputs of the statistical description for variables

No.	Mean	S.d [1]	% [2]	No.	Mean	S.d	%	No.	Mean	S.d	%
Faof1	3.45	0.75	0.69	**Fasl**	**3.46**	**0.59**	**0.69**	Diic3	3.71	0.78	0.74
Faof2	3.16	0.84	0.63	**Fiag**	**3.55**	**0.47**	**0.71**	Diic4	3.44	0.75	0.69
Faof	**3.31**	**0.72**	**0.66**	Dimo1	3.47	0.98	0.69	Diic5	3.42	0.90	0.68
Fatf1	2.93	0.91	0.59	Dimo2	3.35	0.97	0.67	Diic6	3.53	1.06	0.71
Fatf2	4.13	0.66	0.83	Dimo3	3.58	0.86	0.72	Diic7	3.24	0.98	0.65
Fatf	**3.51**	**0.62**	**0.70**	Dimo4	3.35	0.99	0.67	**Diic**	**3.44**	**0.69**	**0.69**
Fahf1	3.89	0.69	0.78	Dimo5	3.44	0.80	0.69	Diit1	3.16	0.77	0.63
Fahf2	3.62	0.50	0.72	Dimo6	3.42	0.88	0.68	Diit2	3.11	0.93	0.62
Fahf	**3.75**	**0.49**	**0.75**	Dimo7	4.20	0.65	0.84	Diit3	3.31	0.87	0.66
Fatc1	3.36	0.60	0.67	Dimo8	3.91	0.78	0.78	Diit4	3.18	0.92	0.64
Fatc2	4.05	0.62	0.81	Dimo9	3.64	0.61	0.73	Diit5	3.27	0.98	0.65
Fatc	**3.72**	**0.52**	**0.74**	**Dimo**	**3.59**	**0.66**	**0.72**	Diit6	3.42	0.90	0.68
Fasl1	3.55	0.66	0.71	Diic1	3.18	0.96	0.64	**Diit**	**3.24**	**0.65**	**0.65**
Fasl2	3.38	0.65	0.68	Diic2	3.47	0.98	0.69	**Ddic**	**3.42**	**0.63**	**0.68**

[1] standard deviation (s.d), [2] percentage (%)

Fifth: testing research hypotheses

H1: there is a significant correlation between financial agility and data-driven innovation capabilities.

The results in table (5) indicate that the strength of the relationship between the input variables represented by financial agility and data-driven innovation capabilities reached (0.813). Perhaps this acceptable relationship may have resulted from the interaction of the strength between these variables' dimensions, as the strength of the relationship between the internal dimensions of the variables ranged from (0.434) as the lowest value between organizational factors faof and innovation talent capabilities diit to (0.870) as the highest value between technical and contextual factors fatc and infrastructure capabilities diic. This means that there is a relationship between financial agility and data-driven innovation capabilities, which means that financial agility is a major factor in enabling companies to improve their data-based creative capabilities, as it allows them flexibility in managing financial resources and fully utilizing opportunities, thereby enhancing their ability to innovate and adapt to market changes more effectively.

Table (5) correlation matrix

	Faof	Fatf	Fahf	Fatc	Fasl	Fiag	Dimo	Diic	Diit	Ddic
Faof	1									
Fatf	.813**	1								
Fahf	.493**	.813**	1							
Fatc	.498**	.766**	.800**	1						
Fasl	.550**	.835**	.809**	.912**	1					
Fiag	.777**	.960**	.874**	.889**	.922**	1				
Dimo	.493**	.769**	.815**	.854**	.837**	.844**	1			
Diic	.457**	.656**	.644**	.870**	.821**	.773**	.886**	1		
Diit	.434**	.621**	.612**	.806**	.779**	.729**	.860**	.921**	1	
Ddic	.480**	.709**	.717**	.877**	.844**	.813**	.951**	.973**	.963**	1

H2: there is a significant effect of financial agility on data-driven innovation capabilities.

It is clear from figure (2) and the results displayed in table (6) that the increased interest of employees in financial intermediation companies in thi-qar in financial agility has contributed to improving data-driven innovation capabilities by (0.893). This means that an increase in financial agility by a single unit has contributed to a positive enhancement in data-driven innovation capabilities by (89.3%), with an error rate of (0.066), which is acceptable due to achieving a critical value of (13.530). This indicates that companies are focused on increasing employee satisfaction by fostering their sense of belonging to the company and equipping them with the flexible resources necessary to implement their ideas, which enhances their productivity, commitment, and loyalty to the company. Additionally, it is essential to provide specialized training programs to develop employees' skills and train them on awareness programs that contribute to data analysis and utilization, which requires strengthening their understanding of how to apply data in the workplace, thereby motivating their creativity.

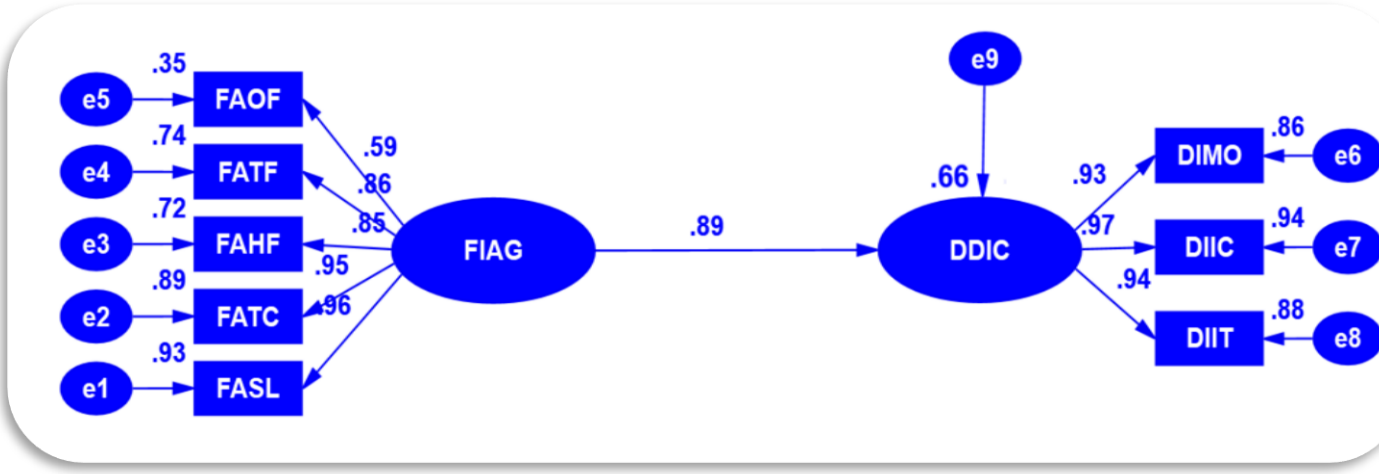

Figure (2) structural model of the impact of financial agility on data-driven innovation capabilities

As the results indicate, financial agility contributed to explaining (0.660) of the variance in data-driven innovation capabilities, which requires companies to encourage employees to share their ideas and innovations and new innovations, thereby strengthening team spirit, increasing collective creativity, developing the company's internal capabilities, and

enhancing their ability to make decisions that improve the company's performance. The remaining value falls outside the scope of the research.

Table (6) outputs of the impact of financial agility on data-driven innovation capabilities

Path			S.w	S.e	C.v	R^2	Sig.
Fiag	**--->**	**Ddic**	0.893	0.066	13.530	0.660	0.001

From this, the following emerges:

1. There is a significant effect of organizational factors on data-driven innovation capabilities in all dimensions.

The results in table (7) show a statistically significant meaningful effect of the organizational factors dimension on the data-driven innovation capabilities with their dimensions, which means that the perception of the employees in the financial intermediation companies in thi-qar province of the importance of organizational factors by one standard deviation leads to an improvement in their data-driven innovation capabilities (marketing orientation capabilities, and infrastructure capabilities, and innovation talent capabilities) by (0.595) with a standard error (0.087), which means that companies must work on investing in modern data technology, as these systems work to collect and analyze data faster and more accurately, which enables employees to make decisions based on accurate information and enhances creativity.

2. There is a significant effect of technological factors on data-driven innovation capabilities in all dimensions.

The results in table (7) indicate a statistically significant meaningful effect of the technological factors dimension on data-driven innovation capabilities with its dimensions, which means that the perception of employees in financial intermediation companies in thi-qar province of the importance of technological factors by one standard deviation leads to an improvement in their data-driven innovation capabilities (marketing orientation capabilities, infrastructure capabilities, innovation talent capabilities) by (0.704) with a standard error (0.058), which underscores the need to adopt flexible management methods that facilitate quick decision-making, requiring the facilitation of administrative processes that allow employees to focus on creativity rather than routine procedures.

3. There is a significant effect of human factors on data-driven innovation capabilities in all dimensions.

The results of table (7) indicate a statistically significant meaningful effect of the human factors dimension on data-driven innovation capabilities with its dimensions, which means that the perception of employees in financial intermediation companies in thi-qar province of the importance of human factors by one standard deviation leads to an improvement in their data-driven innovation capabilities (marketing orientation capabilities, and infrastructure capabilities, and innovation talent capabilities) by (0.491) with a standard error (0.113), which means the need to encourage a culture of cooperation between different teams within the company, which requires strengthening knowledge and idea exchange, as this cooperation leads to the development of innovative solutions that better meet market needs.

4. There is a significant effect of technical and contextual factors on data-driven innovation capabilities in all dimensions.

The results of table (7) indicate a statistically significant meaningful effect of the technical and contextual factors dimension on data-driven innovation capabilities with its dimensions, which means that the perception of the employees in the financial intermediation companies in thi-qar province of the importance of technical and contextual factors by one standard deviation leads to an improvement in their data-driven innovation capabilities (marketing orientation capabilities, infrastructure capabilities, and innovation talent capabilities) by (0.637) with a standard error (0.129), which means that companies must conduct periodic performance evaluations based on the use of data and innovation, which requires analyzing the results obtained to help identify strengths and weaknesses, which contributes to improving future strategies.

5. There is a significant effect of structural and legal factors on data-driven innovation capabilities in all dimensions.

The results of table (7) show a statistically significant positive effect of the structural and legal factors dimension on data-driven innovation capabilities in its dimensions, which means that the perception of the employees in the financial intermediation companies in thi-qar province of the importance of structural and legal factors by one standard deviation leads to an improvement in their data-driven innovation capabilities (marketing orientation

capabilities, infrastructure capabilities, and innovation talent capabilities) by (0.284) with a standard error (0.140), which means that companies must focus on setting flexible financial plans that respond to rapid market changes, and this in turn requires continuous re-evaluation of financial resources and ensuring their effective allocation to support innovation.

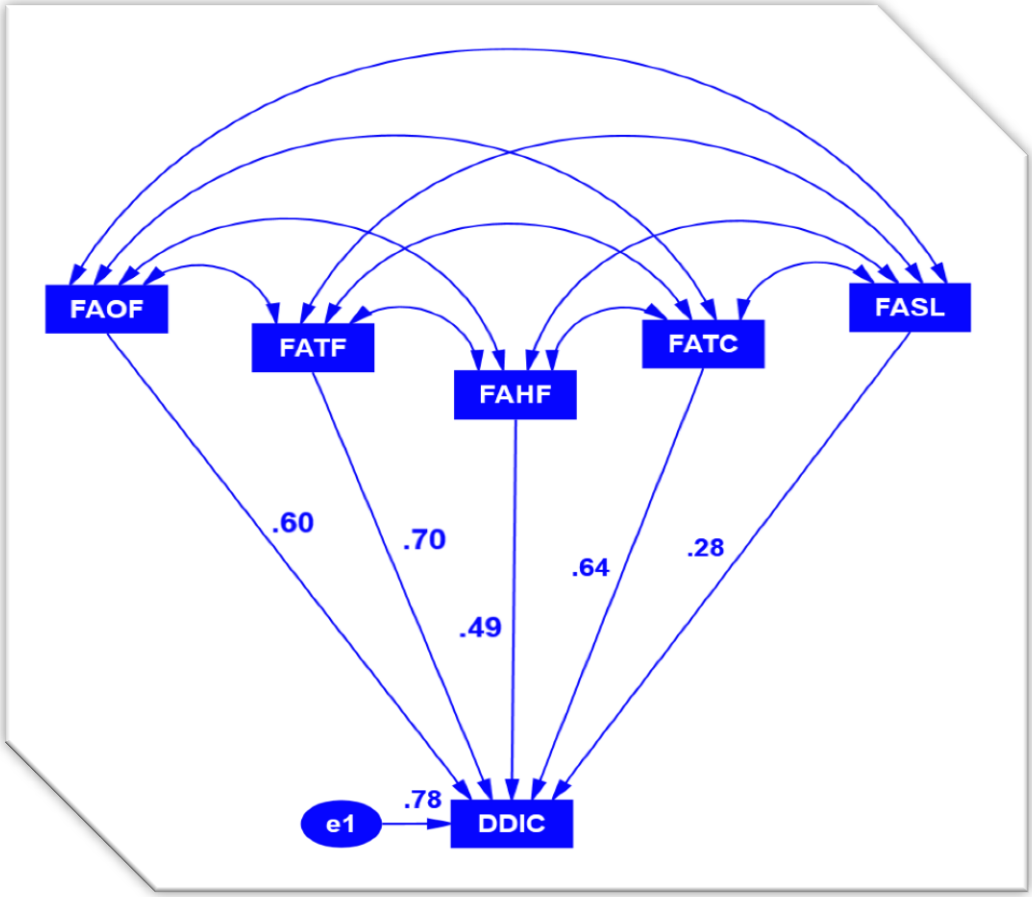

Figure (3) standard model of the effect of financial agility dimensions on data-driven innovation capabilities in all dimensions combined

The results also indicate that the dimensions of financial agility contributed to explaining (0.781) of the variance rate in data-driven innovation capabilities, while the remaining value falls outside the limits of the research.

Table (7) outputs of the effect of financial agility dimensions on data-driven innovation capabilities in all dimensions combined

Path			S.w	S.e	C.v	R^2	Sig.
Faof	**--->**	**Ddic**	0.595	0.087	6.839		0.001
Fatf	**--->**	**Ddic**	0.704	0.058	12.138		0.001
Fahf	**--->**	**Ddic**	0.491	0.113	4.345	0.781	0.001
Fatc	**--->**	**Ddic**	0.637	0.129	4.938		0.001
Fasl	**--->**	**Ddic**	0.284	0.140	2.029		0.001

Part four: conclusions and recommendations

First: conclusions

1. There is a relationship of connection and impact between financial agility and data-driven innovation capabilities, which means that financial agility is considered a major factor in enabling companies to improve their data-based creative capabilities, as it allows them flexibility in managing financial resources and maximizing the use of opportunities, thereby enhancing their ability to innovate and adapt to market changes more effectively.
2. Employees in financial brokerage companies in thi-qar are committed to investing in financial agility to achieve adaptation to the rapid changes in the job market by investing available resources flexibly, which allows concerned employees to enhance their capabilities in making creative decisions.
3. Employees in financial brokerage companies in thi-qar are interested in strengthening the innovation culture by creating a work environment that encourages innovation, which comes back to providing the necessary and flexible resources that enable employees to experiment with their new ideas and use data to make these ideas real and practical, thereby improving the effectiveness of the companies.
4. Employees in financial brokerage companies in thi-qar focus on improving operational efficiency by reducing costs and improving productivity, which allows employees to access

data faster and enables them to make better decisions, thereby improving the overall performance of the companies.

5. Financial intermediation companies in thi-qar province are committed to achieving cooperation among their colleagues through the exchange of data, information, and ideas, which strengthens the tools that contribute to developing new solutions for the issues at hand. This, in turn, leads to supporting the data-driven decision-making process in these companies.

6. Companies strive to increase employee satisfaction by fostering a sense of belonging and equipping them with the flexible resources necessary to realize their ideas, which enhances their productivity, commitment, and loyalty to the company.

7. The results show that financial agility contributes to building positive financial outcomes by improving performance and increasing productivity, making the involved companies more capable of effectively utilizing data. This, in turn, leads to increased revenues and profits and improved profitability, thereby strengthening sustainability.

Second: recommendations

1. Companies must ensure the implementation of flexible financial plans that respond to rapid market changes, which in turn requires continuous reevaluation of financial resources and confirmation of their effective allocation to support innovation.

2. Companies must invest in modern data technology, as these systems collect and analyze data faster and with greater accuracy, enabling employees to make decisions based on precise information and enhancing creativity.

3. It is necessary to provide specialized training programs to develop employees' skills and train them on awareness programs that contribute to data analysis and utilization, which requires strengthening their understanding of how to apply data in the workplace, thereby motivating their creativity.

4. Companies must encourage employees to share their ideas, innovations, and new inventions, which enhances team spirit, increases collective creativity, develops the company's internal capabilities, and enhances their ability to make decisions that improve the company's performance.

5. Flexible management methods must be adopted to facilitate quick decision-making, which requires streamlining administrative processes to allow employees to focus on creativity rather than getting bogged down in routine procedures.

6. The need to encourage a culture of collaboration between different teams within the company, which requires strengthening knowledge and idea exchange, as this collaboration leads to the development of innovative solutions that better meet market needs.
7. Companies must conduct regular performance evaluations based on the use of data and innovation, which requires analyzing the results obtained to help identify strengths and weaknesses, thereby contributing to the improvement of future strategies.

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