

## **The Impact of Internal Environment Factors in Achieving Strategic Agility During COVID-19 Pandemic at Jordanian Commercial Banks: The Moderating Role of Information Technology**

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### **ABSTRACT**

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To remain competitive in today's uncertain business environment, banks must develop capabilities that enable them to adapt and respond quickly to market changes. Therefore, this study aims to examine the impact of internal environmental factors on achieving strategic agility through the moderating role of information technology at the Jordanian Commercial Banks. Out of the 13 banks, 10 took part in the survey. Internal environmental factors being investigated include agile human resources, organizational structure, and organizational culture. The 240 middle and first-line managers who worked at the headquarters of the 10 banks made up the sampling unit. To get the information and data needed, 240 questionnaires were sent out, and 203 of them could be used for statistical analysis. The results indicate a statistically significant impact of internal environmental factors in achieving strategic agility. The findings of the moderation hypothesis also reveal that information technology as a moderator has improved the impact of internal environmental factors in achieving banks' strategic agility by 0.04. The results show that the agility of human resources has the highest impact in achieving banks' strategic agility. Consequently, it was recommended to enhance the skills and competencies of the banks' staff and to equip them with the needed training courses to be able to adapt to change successfully.

## **1. INTRODUCTION**

The COVID-19 pandemic was one of the main challenges business organizations confronted in the new era. After the dilemmas of the great depression in 1929 and the Global Financial Crisis (2008-2009), the pandemic was a catastrophic event and a direct threat to the management models adopted by both business and public organizations [1].

Since the beginnings of 2020, the risk of uncertainty in a chaotic environment has increased, along with an ambiguous future that encompasses opportunities and more threats [2].

The pandemic has created an environment of unprecedented hyper-complexity and continuous change. Consequently, the rules of the competitive game are changing faster than organizations can react to them [3].

Most organizations, particularly the banking sector, were forced to operate with less capacity, to transfer to remote operations, and to adopt more conservative strategies. These circumstances demand high levels of flexibility and systematic efforts to gain an effective response to market changes and demand fluctuations [4, 5].

Demirgüç-Kun et al. [6] remarked that the dilemma made it imperative for banks to be equipped with awareness and agility, which in short, expresses organizations' skillfulness to manage the crisis successfully and adapt to conditions of uncertainty rapidly, introduce new services, develop the existing services, and improve processes.

Korzeb and Niedziółka [7] revealed that banks' ability to cope with the pandemic and to mitigate its consequences

increased with their strategic capability and resilience, which can be translated to strategic agility. Golmohammadi et al. [8] pointed out that organizational agility requires an adequate combination of internal actions and initiatives supported by structure, strong creativity culture, strategies, technology, and mainly human resources.

According to Heilmann et al. [9], human resource empowerment is critical in making quick, rational decisions without delay. To be an agile organization, decentralization, informality, and a low number of managerial levels must dominate the structure. Agility can be elevated by fast horizontal interaction, information and knowledge sharing among organization members rather than the vertical communications controlled by hierarchy [10].

Felipe et al. [11] and Doz and Kosonen [12] stated that culture stands behind the success or failure of any preferable change; the shared commitment, shared norms, values, and beliefs permit organizations' survival and success. Meanwhile, Fakunmoju et al. [13] highlighted the association between strategic agility and information technology capabilities as a prerequisite for achieving competitive advantage. Tsilionis and Wautelet [3] remarked that leadership awareness of strategic developments and their ability to allocate and redeploy resources are crucial for organizational agility.

Based on the above survey, there is a need to focus the light on more studying the effects of internal environmental factors on achieving strategic agility. Therefore, this study aims to measure the impact of internal environmental factors such as agile human resources, organizational structure, and

organizational culture on achieving strategic agility, taking into consideration information technology as a moderator at the Jordanian commercial banks.

## 2. THEORETICAL BACKGROUND & LITERATURE REVIEW

### 2.1 Internal environment factors

The external environment is characterized by complexity and ambiguity. It is more dynamic and less predictable than in the past. Therefore, some authors stated that organizations need to invest in internal capabilities to be able to respond efficiently to external environmental uncertainty.

Internal capabilities, according to Johnson et al. [14] and Wheelen et al. [15], are embedded in internal environment factors such as resources, organizational structure, and organizational culture.

According to Ketchen and Short [16], systematic integration of these factors is critical for leveraging organizational strengths, resolving organizational weaknesses, implementing strategies, and achieving SMART objectives.

From the same perspective, Tallon et al. [17] described the internal factors as agility antecedents and enablers to an organization's successful responsiveness, in particular if these factors are supported by information technology. In this context, Menon and Suresh [18] confirmed the role of internal environmental factors in accomplishing organizational strategic agility.

When it comes to resources Heilmann et al. [9] illustrated that organizations rely on agile human resources for adaptive capabilities. They view human resources as their most valuable resource, and they are responsible for deploying and allocating other resources. Based on the above studies, it can fix the first hypothesis of the current study.

H1: There is a statistically significant impact of internal environment factors (agile human resources, organizational structure, and organizational culture) on achieving strategic agility.

#### 2.1.1 Agile human resources

The fast pace of change, globalization, and the hypercompetitive environment triggered organizations' management to recognize that agile human resources are a critical success factor to survive and prosper [19]. Nawaz and Gomes [20] described agile human resources as a talented, multi-skilled, well-trained workforce who is competent to respond quickly to changes in the internal and external environments.

According to Kavitha and Suresh [21], agile human resources are drivers of continuous strategic agility; they are strategic thinkers and proactive risk-takers, and they have the ability to transfer organizations from traditional approaches to innovative oriented firms. Revutska and Maršíková [22] suggested that in order to gain (agile human resources), there must be a strategic alignment between human resources management, organizational structure, culture, and strategies to attract, develop, and retain the desired staff. Consequently, it can be hypothesized that:

Agile human resources as an internal factor have a statistically significant impact on achieving strategic agility.

#### 2.1.2 Organizational structure (OS)

According to Robbins and Coulter [23], organizational structure is a system that determines how the formal tasks are distributed and assigned to an organization's members. Daft [24] pointed out that the organizational structure manifests the number of hierarchy levels, which is reflected in the width of the span of control. It also shows lines of authority and responsibility and the flow of information between the levels in the organization.

Since the sixties of the last century (OS) has been the interest of researchers, there have been different attempts to identify the structure dimensions. One of the familiar models was proposed by Pugh et al. [25], and included specialization, standardization, formalization, centralization, and configuration. In the seventies of the last century, these dimensions formed the basis for distinguishing between two types of organizational structures:

The mechanical/mechanistic and the organic. The mechanical is suitable for simple and stable environments, while the organic is the most appropriate structure in dynamic and complex environments. These endeavors have attracted the attention of researchers later to identify the features of the two types that might affect organizations' performance [26]. Organizations with mechanical structures have high levels of formalization. These approaches to structures rely on large amounts of written documents and conformity to procedures, regulations, rules, and policy manuals.

With a vertical organizational chart and a narrow span of control, centralization dominated the decision-making process in mechanical structures. The opposite case is in the organic structure where decentralization, delegation of authority, and empowerment prevail in problem solving and decision-making processes [27].

According to Domnguez Escrig et al. [28], organic structures improved organizational ability for radical transformation and gave employees more freedom to adapt to changing circumstances. Within the same context, Koçyiit and Akkaya [29] proved that the organic structure boosts organizations' agility and enables flexibility. Organizations within the organic structure will respond quickly and successfully, according to Tsilonis and Wautelet [3]. They argued that flexible flat structures furnish fast response, particularly during COVID-19.

Thus, and based on the abovementioned previous studies, it can be hypothesized that:

Organizational structure as an internal factor has a statistically significant impact in achieving strategic agility.

#### 2.1.3 Organizational culture

The notion of organizational culture was traced back to the human relations movement in the late 1970s. The movement shed light on the moral, informal humanistic side of organizations and the influence these factors have on workers' performance and, in turn, the organizations' outcomes [30]. Organizational culture is defined as the set of shared values, beliefs, and assumptions that govern the internal and external interactions of the organization. Culture can be viewed as a facilitator of cultivating commitment among organizational members, particularly within unpredictable change situations in the internal and external environment.

Hidayati et al. [31] argued that these shared rules have a strong effect on the way human resources perceive the external environment's dynamism and complexity and the endeavors to adjust the internal environment accordingly. Previous research,

such as Felipe et al. [11], Kamau and Wanyoike [32], demonstrated that organizational culture is a critical factor in achieving responsiveness to opportunities and superior organizational performance. Meanwhile, Holbeche [33] argued that the attempts to achieve strategic agility can be restricted due to cultural barriers; conventional approaches in management, linear thinking, and mechanistic structures will hinder the adaptive efforts.

Therefore, it is critical for agile human resources to be guided by a strong, supportive culture. Based on the above mentioned discussion, it can be hypothesized that:

Organizational culture as an internal factor has a statistically significant impact in achieving strategic agility.

## 2.2 Information technology (IT) and strategic agility

Lucas and Olson [34] and Clark et al. [35], for example, confirmed the role of (IT) in promoting organizations' mastery of responding quickly to radical change and facilitating the flow of information within the organization. Zaheer and Zaheer [36] revealed that through information technology, organizations can get more accurate information related to the external environment and, accordingly, can meet demand requirements faster than competitors.

Overby et al. [37] remarked that information technology reinforces organizations' strategic agility; they concluded that information technology enables organizations to make rational decisions and to select the right strategic choice.

According to Tallon and Pinsonneault [38] and Tallon et al. [17], there is a strong association between (IT) and organizational agility. They argue that to achieve the intended strategic agility, IT must be aligned and embedded in the internal activities and all organizational factors. Melián-Alzola et al. [39] confirmed the results of the previous studies. They indicated that using IT has a fundamental contribution to getting a competitive advantage and satisfying all stakeholders. Once again, Elali [1], Shamsi Gooshki et al. [40] shed light on information technology as an internal capability that enhances organizational strategic agility during crises and (COVID-19) particularly. Given that information technology is one of the facilitators of organizational strategic agility.

The present study is focused on the moderating role of this factor, and consequently, the following hypothesis is formulated:

H2: Information technology moderates the impact of internal factors on achieving strategic agility.

## 2.3 Strategic agility

Strategic agility has emerged as a crucial factor in the age of digitalization, based on the assumption that organizations' excellence is a function of their ability to respond quickly to changes in the external environment [41].

Since the nineteenth century, the concept has been considered significant; Roth [42] stated that organizations are challenged by an unprecedented hypercomplexity and dynamic environment; thus, they must be more dynamic and agile to survive. Within the same context, Sharifi and Zhang [43] proposed one of the earlier models of strategic agility; their model had 4 dimensions (responsiveness, flexibility, speed, and competency) which expressed the organization's ability to recognize changes in the external environment and to adapt faster than competitors.

According to Overby et al. [37], organizations' agility

consists of two components: (sensing to changes, and responding successfully and fast). Based on the previous models Shamsi Gooshki et al. [40] presented a framework of strategic agility included five components (strategic sensitivity, strategic response, resource fluidity, leadership unity, and collective capabilities). Their attempt also highlighted the significance of internal capabilities (IT), strategic thinking, and learning skills as enablers of strategic agility.

Kumkale [44] illustrated that (responsiveness, flexibility, and quickness) are embedded in all the proposed models of strategic agility. Where responsiveness is related to an organization's ability to get the benefit of (sensitivity) and capture the opportunities that were identified in the external environment. Responsive organizations are able to manage crises effectively and have the ability to mobilize and allocate resources in a manner compatible with market requirements [8]. While flexibility refers to the capability of an organization to manufacture a large variety of products within its existing facilities and capacity, all these actions, according to Elali [1], must be initiated faster than competitors.

The current study relied on Doz and Kosonen [12] and Doz [45] models in which strategic agility can be measured by (strategic sensitivity, resource fluidity, and leadership unity). Strategic sensitivity refers to an organization's awareness of opportunities and threats in the external environment.

Resource fluidity involves the configuration and redeployment of resources after consideration of the internal capabilities and external environmental requirements [13]. Leadership unity is embodied in top management's support for change and the ability of leaders to be responsive. Clauss et al. [46] said that leaders who have strategic agility competencies can evaluate change and act on it faster than their competitors.

Agile leaders are able to deal with uncertainty, complexity, and ambiguity. They have the skills to shape the future, exploit existing opportunities, and proactively create opportunities [47].

## 3. METHODOLOGY

The descriptive quantitative research method was employed in this study. Basically, this method relies on collecting the needed data from a significant sample that represents the population properly.

### 3.1 Problem statement

As a result of the Corona pandemic, the outside world has been very uncertain for Jordanian commercial banks since the beginning of March 2020. The decisions of the Jordanian government to avoid the large spread of the pandemic increase the challenges faced by the banks. Radical change and a shift towards remote work were crucial for providing banking services, which called for a high degree of strategic agility. Harnessing all elements of the internal environment and its components (human resources, organizational structure, organizational culture) and information technology infrastructure to achieve a high degree of flexibility and responsiveness to market requirements and external conditions that are characterized by continuous change and ambiguity.

Despite the removal of government restrictions and the organizations' attempt to return to the normal state before the pandemic, the disease still existed, which obliged banks to be on constant alert for any kind of unpleasant changes that might

occur, thus calling for keeping pace with the change quickly and successfully. Consequently, this study aims to test the impact of internal factors in terms of (agile human resources, organizational structure, and organizational structure) as enablers in achieving strategic agility at Jordanian commercial banks, taking into consideration information technology as a moderator. The relationships between the variables of the study are illustrated in the study conceptual model (Figure 1).

### 3.2 Study population and sample

The study population consisted of the 13 Jordanian commercial banks. In accordance to the Jordanian central bank, the 13 banks branches are distributed all over the kingdom, while the headquarters are located in the capital, Amman, where the middle and first line managers are responsible for receiving reports from branches, organizing and forming the basis for building the future strategic plans and adjusting the current plans. Thus, the target sampling unit was this level of management. 240 questionnaires were distributed at 10 banks out of the 13; 215 questionnaires were retrieved, and 203 were valid for statistical analysis.

Of the 203 respondents, 78.9% are males, and 21.1% are females. 88.7% of them were between 30 and 45 years old. With respect to work experience, 79.5% had more than 5 years of working at the same bank, whereas 20.4% of the respondents had more than 10 years' experience.

For education, all of the respondents had university degrees (70.3% had bachelors and 29.7% had master's degrees). The information of respondents' characteristics indicated that Jordanian commercial banks are keen to attract and promote qualified and educated talents with long practical experience to occupy the managerial positions in the bank. Hence, these characteristics make them a reliable source of the collected information for this study.

### 3.3 Study instrument

The researcher developed a 4-part questionnaire to collect the needed information and data; which is a suitable tool for this type of survey, information and data can be collected objectively within a short period of time.

The first part of the questionnaire contained the information of the respondents (gender, age, experience, and education). The second part was related to the internal environment factors questions. The Agile human resources were based on Heilmann et al. [9] and Revutska and Maršíková [22]. Organizational structure and organizational culture questions

were adapted from Revutska and Maršíková [22] and Domnguez Escrig et al. [28].

The third part encompassed the moderator (information technology) questions, which were adapted from Tallon et al. [17] and Melián-Alzola et al. [39]. And finally, the fourth part was developed to measure strategic agility in three dimensions (strategic sensitivity, leadership unity, and resource fluidity) based on Elali [1] The scale of the responses was based on Likert's (5 point scale) of agreement "Strongly agree (5 points), agree (4 points), neutral (3 points), disagree (2 points), and strongly disagree (1 point)".

### 3.4 The questionnaire reliability

The Cronbach alpha test for internal consistency was calculated to estimate the questionnaire reliability. The results were as follows: Agile human resources: 0.791, Organizational structures: 0.735, Organizational cultures: 0.810, Information technology: 0.842, Strategic Sensitivity: 0.869, Leadership unity: 0.877, Resources fluidity: 0.756. Compared to the convenient value (0.70), which was identified by the previous studies, the results revealed an internal consistency of the variables questionnaire.

## 4. RESULTS AND DISCUSSION

For current statistical analysis, the present study utilized the SPSS program version 25. The results are displayed as follows:

First, the descriptive statistics results in terms of arithmetic means and standard deviations of the respondents' answers to the variable questions. Second, the results of multiple regression, which were calculated to test the impact of internal environmental factors on achieving strategic agility, while the third part is related to the result of the hierarchical multiple regression, which was employed to test the moderation role of information technology in the relationship between internal environmental factors and strategic agility.

### 4.1 Descriptive statistics results

This part of the statistical analysis is displayed in Table 1, which contains the total mean and standard deviation of each variable. The arithmetic mean levels of respondents' agreement are estimated based on the following scale:

1 to 1.49 (very low) 1.50-2.49 (low) 2.50-3.49 (medium) 3.50-4.49 (high) 4.50-5.00 (very high).

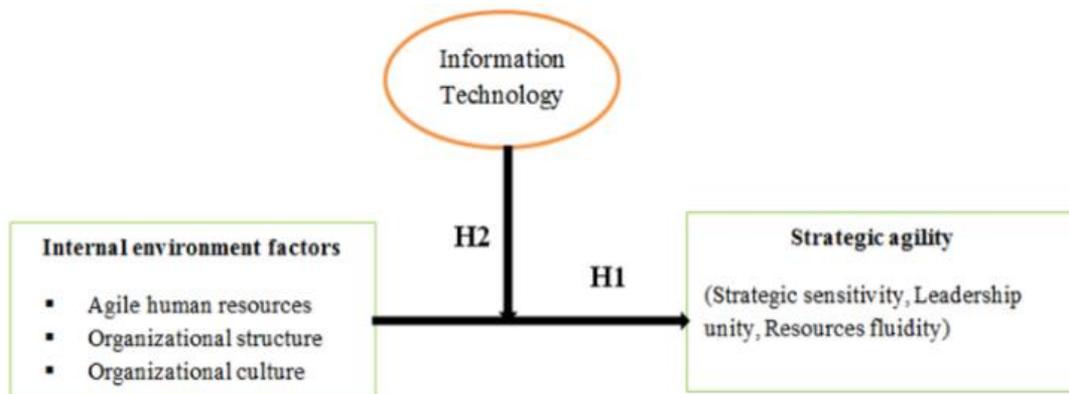


Figure 1. Study conceptual model

**Table 1.** Descriptive statistics results

Study variables	Total means	Level of agreement	Total Std. deviation
<b>Independent variable /s Internal environment</b>			
Agile human resources	4.17	High	.704
Organizational structure	3.96	high	.637
Organizational culture	3.84	High	.625
<b>Dependent variable (Strategic agility)</b>			
Strategic sensitivity	3.75	High	.738
Leadership unity	4.10	High	.572
Resources fluidity	3.88	high	.635
<b>Moderate variable (information technology)</b>	4.06	High	.590

The mean values of the independent variables range from (3.84 to 4.17), indicating high levels of agreement; respondents viewed bank staff as (agile) individuals who possess the capabilities and competencies that enable them to achieve their organization's strategic objectives, respond quickly to all changes in the external environment, and adapt to the internal environment accordingly. The high level of the arithmetic means of the organizational structure and organizational culture proved that the surveyed banks are conscious enough to employ flexible, flat structures that activate decentralization and informality. When it comes to culture, the results confirmed the domination of a strong innovative and resilience culture in the surveyed banks, through which the management can recognize the environmental dynamism and manage reasonably the opportunities and threats.

Table 1 also presents high levels of strategic sensitivity, leadership unity, and resource fluidity. The results demonstrate that the bank's management has sufficient capabilities and skills to anticipate changes in the external environment, to make fast decisions, redistribute and allocate resources, and to reconfigure bank capabilities. Based on the total means of applying information technology, it is clear that bank management recognizes the critical role of information technology in terms of (hardware, software, networks, databases, and human ware) in facilitating efficient banking operations, particularly during the (COVID-19) pandemic.

The Table also shows that the standard deviation of all the variables is low, which indicates that there is a low deviation of the respondents' answers from the mean, in a manner that reflects a convergent in the respondents' views of the questions content.

**4.2 Multiple regression results**

By using multiple regression with a p value of 0.05, this hypothesis intends to test the direct effect of the internal environment factors (Agile human resources, organizational structure, and organizational culture) on achieving strategic agility as one variable. If the t sig value is less than the p value (0.05), the hypothesis (H1) will be accepted.

Sekaran and Bougie [48] remarked that multiple regression allows researchers to evaluate the impact of several independent variables when they work together, and at the same time, the strength and importance of each variable on the dependent variable/s when the other independent variables are statistically eliminated.

The reason for employing multiple regression rather than simple in this study is that strategic agility is rarely explained by just one internal environmental factor. According to Zikmund et al. [49], when employing multiple regression, it is necessary to examine the multicollinearity, which refers to the

degree to which the independent variables are interrelated and correlated to each other.

When the results of multicollinearity are high, the regression estimates will be difficult to interpret. For this purpose, the variance inflation factor (VIF) and tolerance are used. VIF>5.0 and tolerance 0.05 indicate problems with multicollinearity. Hence, based on the VIF and tolerance values in Table 2, there is no multicollinearity between the internal environment factors and information technology.

**Table 2.** Multicollinearity test results

Variables	VIF	Tolerance
Agile human resources	3.202	.312
Organizational structure	3.483	.287
Organizational culture	3.287	.304
Information technology	2.498	.400

Table 3 illustrates the results of multiple regression, distributed into three parts. The model summary part shows that Pearson correlation (R) = (0.908), which reveals that there is a very strong positive association between the internal environment factors and strategic agility.

While R<sup>2</sup> (0.824) indicated that the combination of internal environment factors accounts for 82.4% of the variation in strategic agility, the ANOVA part manifests the values of F (310.363) and F sig (0.000) < 0.05. Due to the F sig value, it can be articulated that the study's model is suitable for regression testing, and at least one of the independent variables has a statistically significant impact on strategic agility. In the coefficient part, the values of t sig, which are all less than 0.05, reveal that all the internal environment factors in terms of (agile human resources, organizational structure, and organizational structure) have a statistically significant impact on the strategic agility dimensions.

Based on the values of Beta, it is obvious that the agile human resources element has the highest impact on strategic agility. This result confirmed the notion that human resources are the most valuable resource in organizations. They are the source of excellence, capable of maximizing the benefits of other resources.

Consequently, (H1) will be accepted, and it can be concluded that agile human resources, organizational structure, and organizational culture each have a statistically significant impact on strategic agility.

**4.3 The results of hierarchical multiple regression**

H2 is meant to look at how information technology moderates the effect of internal environment factors on the ability of Jordanian commercial banks to be strategically agile. Memon et al. [50] pointed out that "moderation is where a relationship between an independent variable and a dependent

variable changes according to the value of a moderator variable".

Hence, to test the moderation role of information technology, the researcher employed hierarchical multiple regression based on three models as follows:

In model (1), the impact of internal environmental factors on strategic agility was tested. In model (2), the impact of information technology on strategic agility was tested. Finally, in model (3), the interaction between the independent and the moderator was tested. The results in Table 4 displayed the output of hierarchical multiple regression.

The sequence of R values in the 3 models were respectively (0.860), (0.876) and (0.901), indicating that there is a strong

positive correlation between the internal environment factors and strategic agility in model 1, and the same between information technology and strategic agility in model 2. It is obvious that the association increased in model 3 to underline the positive effect of information technology interaction with internal environmental factors on achieving strategic agility. The table presents the R<sup>2</sup> change. The values demonstrate a positive variation by (0.044) in the third model. It means that the existence of information technology improved the impact of the internal factors on strategic agility by 0.04. It is apparent from the values of t sig (0.000) of the three models that all the relationships between the three variables are statistically significant. Based on the results in Table 4, H2 is confirmed.

**Table 3.** (H1) test results

Independent variables	Model summary		ANOVA		Coefficient		
	R	R Square	F	Sig.	Beta	t	T sig
Agile human resources					.449	8.332	0.000
Organizational structure	.908 <sup>a</sup>	.824	310.366	.000 <sup>b</sup>	.228	4.110	0.000
Organizational culture					.298	5.606	0.000

**Table 4.** The outcomes regarding (H2) test

Models	R Sig	R <sup>2</sup>	R <sup>2</sup> Change	F change	F sig	Beta	T T sig
Model 1 Internal factors (IF)	.860 <sup>a0.000</sup>	.739	.739	470.792	0.000	.288	0.001
Model 2 Information technology (IT)	.876 <sup>b0.000</sup>	.768	.029	20.307	0.000	.184	0.000
Model 3 Interaction (IF)*(IT)	.901 <sup>c0.000</sup>	.812	.044	38.476	0.000	.500	0.000

## 5. CONCLUSIONS AND RECOMMENDATIONS

The current study agreed with many previous investigations that stated that internal factors cannot be effective in achieving strategic agility without the support of information technology and the availability of appropriate infrastructure for its successful implementation.

Hence, the present study aims to examine the impact of the internal environment factors in achieving strategic agility at the Jordanian commercial banks, highlighting the importance of information technology as a moderator. The statistical analysis results revealed an awareness of the surveyed banks' management of the vital role of adjusting the internal environment in terms of (human resources, organizational structure, and culture) to cope with the external environment's uncertainty and complexity, and at the same time, the banks recognized the benefits of investing in information technology to facilitate agility. The results of testing hypotheses suggest that there is a statistically significant impact of the internal environmental factors on achieving strategic agility (strategic sensitivity, leadership unity, and resource fluidity).

The results of the moderation hypothesis demonstrated that information technology contributes to the strategic agility of Jordanian commercial banks by transforming the impacts of the internal environment into factors. According to the study's findings, it is advised that business organizations generally, and banks in particular, develop the "correct combination" of scarce internal competencies and human resources in order to achieve strategic agility and avoid strategic rigidity. And to spend money on developing their operations, learning, and human resources. Finally, view the Corona situation as a teaching opportunity rather than a danger. For future research, it is recommended to analyze the impact of other factors than the internal environment on achieving strategic agility in different sectors than banking.

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