

The Impact of Organizational Mindfulness On Enhancing Strategic Flexibility: A study by an Iraqi Public University

Sfoog Abdullah Mahmood¹, Yasser Dawood Sulaiman² and Noor Azman Ali³

¹ Dept. of Business Management Techniques, Administrative Technical College, Northern Technical University
sfoogmahmood@ntu.edu.iq

² Department of Autotronics Engineering Techniques, Polytechnic College Mosul, Northern Technical University, Iraq
yaser.aldaood@ntu.edu.iq

³ Putra Business School, Universiti Putra Malaysia
noorazman@putrabs.edu.my

Abstract: This research was conducted to identify the factors affecting strategic flexibility by examining the impact of Organizational Mindfulness and its dimensions (preoccupation with failure, reluctance to simplify procedures, sensitivity to processes, commitment to flexibility, respect for expertise) on strategic flexibility and its dimensions (coordination, resources, and planning). This was based on the study problem, which attempts to answer a fundamental question: What is the role of Organizational Mindfulness in enhancing strategic flexibility in the organization under study? And does it truly contribute to activating its strategic flexibility to face rapid environmental changes? The research included 210 respondents, from administrative leaders in the upper and middle management of the University of Mosul, one of the Iraqi public universities, being the largest in the northern region of Iraq. The data were analyzed using the structured equation model with AMOS software. 26. To test the hypotheses, the results showed that Organizational Mindfulness has an impact on strategic resilience. The dimensions of Organizational Mindfulness —namely, sensitivity to processes, commitment to flexibility, and respect for experiences focused on environmental adaptation—were more influential on strategic resilience than preoccupation with failure and reluctance to simplify procedures, which represent psychological aspects of the feelings of the leaders studied. The research was conducted at one of the largest universities in northern Iraq. Further research is needed on the behavioral aspects of administrative leaders in Iraqi universities to enhance their role in the Iraqi economy. This research offers a new perspective by identifying the most influential dimensions of Organizational Mindfulness in strategic

Keywords: Organizational Mindfulness, strategic flexibility, administrative leadership, University of Mosul.

1. Introduction

Strategic flexibility is essential for organizations, it is a key organizational capability for fostering innovation and improving organizational performance [1]. and this requires multiple organizational aspects, including Organizational Mindfulness of the leaders in those organizations. It is the basic pillar for recognizing the danger of the environment and the basic need to maintain the current strategy or consider it according to the flexibility it possesses within the framework of formulating its organizational strategy. The importance of strategic flexibility lies in its role as a tool that enables organizations to transform threats into opportunities, maintaining their competitiveness and continuity in volatile and uncertain environments by building a dynamic capacity for adaptation and continuous renewal. In this context, (Awais et al., 2023) [1] and (Hoeft) [2], explained that strategic flexibility empowers organizations to act effectively through its three dimensions: resource flexibility, which reflects the ability to allocate resources in various ways according to the demands of the situation; planning flexibility, which enables management to review and modify plans in light of changes; and coordination flexibility, which ensures the integration of efforts and the unification of approaches among organizational units in the face of circumstances. The variable [1]. Hence, Organizational Mindfulness emerged as a tool to enhance organizational resilience, enabling senior management to take a more comprehensive and realistic view of the organization's current performance. Its outputs are used to modify



the planning process at all administrative levels. On the other hand, Organizational Mindfulness represents one of the requirements for survival and development in modern organizations, as it means the continuous ability to sense risks and opportunities and anticipate events before they occur. Organizational Mindfulness focuses on a set of essential dimensions, as indicated by [3], [4], [5], and [6]. Karl E. Weick and Katherine M. Sutcliffe [5] were the first to write about the concept of Organizational Mindfulness and its five dimensions in their seminal book, "Managing the Unexpected: How Organizations Thrive in the Face of Surprises," published in 2001. They developed the theoretical framework for Organizational Mindfulness based on their previous studies of High Reliability Organizations (HROs), and established the five dimensions—Failure Concern, Reluctance to Oversimplify, Process Sensitivity, Commitment to Resilience, and Respect for Expertise—as essential tools for understanding how organizations manage surprises and crises. Failure Concern reflects an awareness of the importance of analyzing mistakes to learn from them; Reluctance to Oversimplify emphasizes the need to avoid oversimplifying problems to understand the complexity of the surrounding environment; Process Sensitivity expresses close monitoring of operational details and early detection of deviations; Commitment to Resilience relates to the organization's ability to absorb shocks and maintain its continuous readiness to adapt; and finally, Respect for Expertise means prioritizing the voice of those with experience and knowledge when making critical decisions. The importance of Organizational Mindfulness stems from its pivotal role in supporting organizational learning, knowledge integration, and fostering a spirit of collective awareness within the organization. This enhances its ability to anticipate risks and deal with sudden changes efficiently and effectively. The relationship between strategic flexibility and Organizational Mindfulness lies in the fact that the former represents the dynamic response to internal and external environmental indicators perceived by the latter. The higher the level of Organizational Mindfulness, the greater the organization's ability to develop its strategic flexibility and achieve balanced and sustainable institutional performance. This relationship is gaining increasing importance in the academic field within the scope of scientific knowledge indexed in the Scopus database. It also represents a fertile ground for research and application in both the industrial and service sectors, as it provides an integrated framework that enhances the ability to adapt and compete in unstable work environments. Here, universities need strategic flexibility, which they often employ through the Organizational Mindfulness emanating from their leaders. In this context, this study aims to examine the impact of Organizational mindfulness on enhancing strategic resilience by surveying a sample of administrative leaders at the University of Mosul. The aim is to uncover the level of awareness and relevant practices within the higher education environment and to determine the extent to which the dimensions of Organizational mindfulness contribute to developing the university's capacity for strategic adaptation amidst ongoing changes, thereby achieving strategic resilience. The study also aims to present an applied model that contributes to improving organizational performance and sustaining competitiveness in Iraqi universities. In light of the foregoing, the study seeks to comprehensively develop both the theoretical and practical aspects of Organizational mindfulness and strategic resilience by describing and identifying the variables and analyzing their impact relationships. The relationship between the two main variables is complementary within the frameworks of organizational theory and strategic management, each of which has its own theoretical aspects that have been subject to many theories and have many researchers and philosophies, each expressing management in its own way. However, in general, organizational thought based on the leader's ability to monitor the environment greatly reflects the organization's situation and its ability to adapt by relying on its flexibility and dynamic ability, especially its strategic flexibility at the levels adopted by the study. Through an extensive reading of the theoretical framework, the researcher sees that the dimensions of Organizational mindfulness, preoccupation with failure, hesitation in simplifying procedures, and sensitivity towards processes are personal aspects and influences of the leader in dealing with purely administrative aspects, where feelings are only in one direction towards aspects related to work procedures. On the other hand, commitment to flexibility and respect for experience are based on specific environmental influences, and feelings are in two main directions: the first is the environmental influence that creates flexibility, and the second is the influential person with whom one deals, which respect the experience.

2. Literature Review- Organizational Mindfulness

The concept of organizational mindfulness originates in the field of psychology, stemming from the development of assumptions about mindfulness at the individual level. This has been noted by numerous researchers, including James (1924; 1949), Ryle, Thera (1962; 1989), Langer (2000), and Sternberg. A study by Langer and her colleagues in psychology demonstrated the health benefits of mindfulness for employees, including reduced work-related stress and psychological frustration. The word "mindfulness" comes from the Latin term "Vielle," meaning to be alert or watchful. What applies to an individual can also apply to an organization. An organization can be described as mindful because it is aware of developments and changes in its environment and listens to the signals emanating from it. This awareness and attentiveness enable it to make decisions and take appropriate actions at the right time and in the right way. The concept of mindfulness emerged in the humanities early in the first decades of the 21st century

and had long been widely known in the Buddhist tradition. Evidence suggests that mindfulness is fundamentally linked to organizational effectiveness and has a positive impact on several factors (employees, organization, and problem-solving). As for the emergence of the term "organizational mindfulness," specifically in the field of organizational sciences, it is due to the efforts of many researchers in studies related to organizing information processing processes, including researchers (Roberts & Weick; Kabat-Zinn) [6]. Mindfulness contributes to extracting important and crucial information from the various signals emanating from different conditions of technological developments, enabling the organization to generate new knowledge that helps it surpass its competitors and enhances its ability to respond quickly to various changes. In this way, these systems are integrated with management systems to activate the necessary harmony between the organization's internal and external knowledge perspectives. According to [4], Organizational mindfulness is a relatively stable and enduring organizational characteristic that arises from the structures and practices implemented by senior management. It acts as a context creator by indicating what the organization expects and supports. Organizational mindfulness is achieved when managers can generate a culture of rational thinking and action. Thus, we can say that managers can establish a foundation for achieving this through the top-down administrative processes within the organization's structure.

3. The difference between individual vigilance and Organizational mindfulness

Mindfulness is an innate tendency to perceive and observe the present moment without reacting or judging. Extensive studies have shown the positive effects of mindfulness (see reviews, such as increased positive feelings), reduced stress and pressure, improved job performance, and, most importantly, that mindfulness is associated with effective personal functioning, such as improved ability to suppress irrelevant thoughts, improved stress regulation, effective emotional and cognitive regulation, and improved communication skills and high-quality interpersonal relationships. Individuals open to experience are characterized as creative, diverse, and intellectually inclined. Openness to experience refers to an individual's receptiveness to new or unconventional ideas, and to experiences that are imaginative, curious, and insightful. Mindful individuals have been shown to pay more attention to their external environment (present awareness) than their internal environment (emotions). They focus primarily on their internal state and are more conscious, emotionally stable, and enjoy better mental health [7]. Unlike individual mindfulness, organizational mindfulness is not an internal process, nor a set of internal processes. It is a function of social factors within the organization, in addition to communication. In other words, organizational mindfulness is a relatively stable characteristic of an organization, arising from its structures and processes, and reinforced by its leadership. Organizational mindfulness enables the organization to respond quickly and implement a wider range of actions. Another option is to reintegrate existing routines, which gives individuals more choices and thus enables them to respond quickly [8]. [9] indicates that individual mindfulness helps members of organizations gain an objective perspective even in stressful situations, which may contribute to communication between individuals in such situations and support consideration of experience. This view seems to be supported by those who suggest that individual mindfulness makes individuals more sensitive to the viewpoints of other members. Individual mindfulness contributes to changing perspectives based on experience. Thus, individual mindfulness appears to make individuals more likely to recognize and accept perspectives different from their own, such as expert perspectives in crisis situations. There seems to be a strong argument for individual mindfulness contributing to the likelihood of individual members engaging in intensive communication. In addition, awareness of and acceptance of new and different perspectives may lead to seeing situations in a new light rather than seeing them as copies of standard situations with pre-existing answers. Thus, the greater sensitivity to new perspectives resulting from individual mindfulness may lead to using rules and routines in new ways, and subsequently updating them based on new information available [8]. Recently, organizational mindfulness has emerged as a rapidly developing field in supporting organizational studies and in professional environments, as it has become an effective tool in diverse organizational development. Organizational mindfulness has played an effective role in reducing stress, and its effects in its practices have become prevalent in organizations. Previous research has shown that individuals who possess organizational mindfulness tend to be more aware of their behaviors towards others, from verbal communication to paying attention to other non-verbal expressions such as gaze and body language. Currently, organizational mindfulness is known for its positive associations with attention to task performance and problem-solving skills [8]. Mindfulness is also a demanding task, described as the process of noticing new things that prompts people to focus on the present and increases their sensitivity to context. It is a multifaceted construct comprised of five components: observation, description, conscious action, acceptance without judgment, and non-reaction to internal experiences. On the other hand, mindfulness is described as an innate human capacity consisting of receptive awareness, recording internal and external experiences, processing information prior to conceptualization, and being present-oriented. Organizational mindfulness requires the organization and its leaders to accept the fact that it is impossible for them to have complete knowledge about a known event. In other words, Organizational mindfulness is a method of carrying out the daily operations of the

organization, with a focus on understanding the context in detail. Therefore, organizations and individuals are given great attention for gaining or preventing this understanding. As a result, Organizational mindfulness helps organizations to detect small imbalances and failures before their consequences and effects accumulate into large-scale failures, economic losses, or outright disasters. Organizational mindfulness also enables organizations to solve problems before they become problems, and it can help organizations to innovate by supporting attempts to find new solutions and looking at situations from different perspectives [8].

4. Dimensions of Organizational mindfulness

The concept of organizational mindfulness is one of the most prominent theoretical frameworks developed by Carl E. Weick and Kathleen M. Sutcliffe, particularly in their seminal 2001 work, **Managing the Unexpected**. Building upon their research on high-reliability organizations, they developed a five-dimensional theoretical framework encompassing cognitive and operational mechanisms that enable organizations to monitor emerging changes, manage surprises effectively, and enhance organizational resilience in the face of complex and unpredictable environments. Organizational mindfulness begins with the element of surprise and unexpected situations. The organization then recognizes its importance and establishes supporting procedures and rules to build a stable organizational structure and standardize processes to ensure a rapid response to unforeseen circumstances [8].

1. Failure-focused:

Failure focused refers to paying attention to activities and taking steps to prevent the risks of minor errors escalating and spreading. This involves two main aspects. First, if an organization focuses on failures as small indicators in its operations, it may be a sign of a larger problem. Second, organizations can understand the problems that should be avoided, and with this understanding, they may have the opportunity to recognize their weaknesses and vulnerabilities. Through failure-focused management, management seeks multiple explanations for environmental risks or weaknesses. Failure-focused management, which focuses on emerging failures, can stimulate focus and perhaps clear insights into environmental degradation and how the organization's actions or inactions contribute to it [8].

2. Reluctance to simplify procedures:

Simplification means seeking information that supports beliefs and expectations. Instead of simplifying, vigilant organizations pay attention to flaws and surprises and seek ways to understand them. Managers in vigilant organizations do not simply confirm information; they constantly evaluate its sources, including how it is collected, integrated, and communicated to the decision-maker. Simplifying procedures refers to seeking information that supports the organization's beliefs and expectations. Vigilant organizations focus on resisting simplification, paying close attention to all events, especially unusual ones, and searching for ways to understand them. This reluctance to simplify explanations focuses on taking deliberate steps to question proposed assumptions within vigilant organizations, constantly seeking uncertain information, and continuously evaluating its sources to form a more accurate picture of current processes and procedures, thus providing a better understanding of potential future consequences. This reluctance to simplify procedures and sensitivity to processes increase clarity of vision by replacing conceptual categories with an awareness of current details. From simplification to directing management to pay attention to environmental anomalies or disasters and seek to understand them, and rejecting their interpretation as a result of causes unrelated to the organization's objectives [8].

3. Sensitivity to processes:

The continuous interaction and exchange of information between employees and organizational factors that determine the integrity of the system as a whole. In this context, sensitivity to processes in organizations also means sensitivity to interrelated transactions. Sensitivity to processes focuses on reality rather than intentions within the organization. These organizations maintain awareness by paying attention to the details of ongoing activities and processes to identify minor problems that may escalate. Sensitivity to processes also involves maintaining situational awareness, a vivid sense of detail, and a focus on reality rather than intentions. Organizations pay more attention to what actually happens rather than what is supposed to happen, and require employees and management to constantly act based on factual evidence rather than their instinctive feelings.

4. Commitment to flexibility:

This means the organization's ability to accurately and quickly assess and analyze unexpected situations and events, and to engage in learning processes to address these events before they escalate or cause significant and

dangerous damage to the organization. In other words, vigilant organizations treat errors as expected, and therefore, the work of organizations focuses on increasing their capacity to deal with errors. Resilience is one of the essential dimensions for building trust in organizations. Administrative leaders in vigilant organizations demonstrate a commitment to achieving organizational programs, and they emphasize, work towards, and encourage shared commitment from employees to ensure the success of the organization's strategic programs. It also includes the organization's ability to correct errors quickly and accurately before they have a chance to worsen and cause more serious damage. Resilience involves acknowledging failures, dealing with them, and learning from them. Therefore, resilient organizations are able to improvise and recover from setbacks quickly.

5. Respecting expertise:

Involves transferring decision-making authority to the employees most experienced with the problem at hand, regardless of their authority or position within the organizational hierarchy.

Foresightful organizations recognize that expertise is not necessarily tied to organizational level; rather, decision-making can be entrusted to those with the most extensive and relevant experience to the problem or situation under consideration. This emphasizes avoiding rigid hierarchical structures and leveraging decision-making systems that utilize competencies and expertise to improve organizational performance.

Respecting expertise includes understanding that expert decision-making can occur spontaneously when needed, regardless of location, position, or expectations. Respecting expertise is essentially making decisions based on experience rather than hierarchical decision-making within organizations. Furthermore, the exchange of expertise among leaders and members fosters knowledge sharing within organizations, contributing to the development of organizational identity. Enhancing knowledge sharing in organizations leads to increased respect for experience-based knowledge and promotes internal communication and interaction.

Respect for experience is the tendency to benefit from individuals with special knowledge regardless of their status, position, or rank, and to recognize that authority does not equal experience and that deferring to experience pushes decisions to the lowest possible levels.

5. Strategic Flexibility

Brinckmann (2019:155) defines strategic flexibility as the ability of organizations to respond quickly and effectively to competitive opportunities and threats. It is particularly crucial for new organizations operating in highly ambiguous and uncertain environments with rapidly changing conditions. Danook [10] defines strategic flexibility as the ability of organizations to perceive and understand environmental changes and select the best strategic alternatives to adapt and adjust in order to preserve their resources and utilize them swiftly to achieve their desired success.

This ensures survival, renewal, growth, and a competitive advantage. [11] explain that strategic flexibility is especially important in dynamic and volatile environments, where rigid, traditional strategic planning methods may not be sufficient to address rapidly changing circumstances.

By adopting strategic flexibility, organizations can position themselves to seize emerging opportunities, mitigate risks, and achieve long-term success, Table 1.

Table 1. Definitions of strategic flexibility according to the opinions of a number of researchers

Reference, Page No.	Definitions
[11]	How organizations adapt and respond to internal and external environmental factors to carry out their tasks and activities in an environment characterized by uncertainty.
[12]	The organization's ability to be proactive or reactive to the changing circumstances surrounding it, with a range of different internal and external options.
[13]	The ability of an organization to change and adapt to the variables of the surrounding environment, enabling it to take advantage of the opportunities that these changes offer, or to avoid the risks resulting from them. Flexibility is a continuous process that does not stop at a certain limit.

[14]	This metric indicates an organization's readiness to respond to and adapt to environmental changes, and is considered a crucial mechanism that helps organizations deal with uncertain situations and improve their performance.
[15]	Organizational capability is needed by organizations to survive and thrive in turbulent business environments, so resilience has become an essential mechanism for successful transformation to cope with changing environmental conditions and adopt cutting-edge new technologies.

6. Dimensions of Strategic Flexibility

By examining the historical development of the dimensions of strategic flexibility in management literature, a clear divergence is observed among Western researchers themselves. The list of these dimensions has expanded to include multiple concepts such as product flexibility, market flexibility, operational flexibility, expansion flexibility, information flexibility, and even human capital flexibility, according to each researcher's interpretations and the context of their study [16], [12], [17]. Despite this multiplicity, the most established and influential theoretical framework in this field remains that presented by Ron Sanchez [18], who limited the concept of strategic flexibility to two essential dimensions: resource flexibility and coordination flexibility. Returning to recent studies, particularly in the Arab and Middle Eastern contexts, it is observed that researchers in this region have adopted multiple and diverse dimensions of strategic flexibility, including, for example: production flexibility, marketing flexibility, human resource flexibility, competitive flexibility, information flexibility, and planning flexibility. However, it is noteworthy that these dimensions in Arab studies are not, for the most part, based on established theoretical foundations or a unified conceptual framework. Rather, they have emerged as the result of researchers' personal interpretations, based on the nature of the societies they study or inspired by disparate literature. This raises questions about the objectivity of these dimensions and the depth of their roots in authentic management theory. In contrast, the dual model established by [18], based on resource flexibility and coordination flexibility, remains the most reliable and original model in theory, which reflects the need for Arab researchers to return to these theoretical roots when dealing with this concept. Given the need to add a dimension reflecting an organization's ability to adapt to environmental changes by modifying its strategic plans, the researcher based his study on the work of [1], which was conducted in a different organizational context: engineering project-based organizations registered with the Pakistan Engineering Council. Awais added a third dimension, planning flexibility, to Sanchez's two core dimensions. The significance of this approach lies in its theoretical extension, which allows for testing in new and different environments. In his current study, conducted within the educational setting of the University of Mosul, the researcher aims to test the impact of strategic flexibility, with its three dimensions (resource flexibility, coordination flexibility, and planning flexibility), in this distinct context. This is achieved by drawing upon Sanchez's expanded framework, incorporating dimensions from later literature, while taking into account the specific characteristics of the educational environment under consideration. Given the importance of strategic flexibility in the success of public and private, service and production organizations alike, as well as its role as a proactive capability that enables organizations to deal with changes in a proactive and adaptive manner rather than a reactive approach that leads to shortcomings in time, effort, cost, and performance. Strategic flexibility is crucial for the success of business organizations. Therefore, it is natural that senior management focuses heavily on it, as strategic flexibility is one dimension of overall organizational flexibility. It also acts as a shock absorber for the organization when faced with anxiety or environmental disturbances. Its function is to absorb external environmental anxiety or uncertainty, depending on the extent, frequency, and unusual nature of the anxiety [19].

Planning Flexibility: Planning is defined as the selection of a set of activities and determining what needs to be done, when, how, and who will do it. Environmental factors indicate that the strength of the external environment positively impacts organizational performance. Therefore, using strategic environmental assessments to evaluate the strengths of the external environment (opportunities and threats) helps in seizing opportunities and avoiding threats, leading to organizational profitability. Organizations should continuously engage in strategic environmental assessments and pay attention to threats (to avoid them) and opportunities (to seize them) in the environment. Planning must consider the need for flexibility to be able to adapt to new situations and conditions as quickly as possible. Dealing with flexibility and change has become an area of increasing importance due to the disruptions many organizations face. Flexibility is a widely studied issue in manufacturing literature, as its importance stems from the uncertainties and disruptions that production processes create in organizations. Planning flexibility is the ability of an organization's strategic plan to Change is accompanied by evolving environmental opportunities and threats. Without any effort or management action to ensure survival through resilience and adaptation, rigid planning may lead to long-

term disasters. Although there are various types of negative factors that may hinder resilience, it is essential to identify and manage these factors. To enhance flexibility, organizations can seek diverse alternatives through policies, practices, and procedures. Therefore, a flexible planning system is extremely important for the growth and success of the organization. Planning flexibility is an important aspect of strategic flexibility, as it concerns the ability of the organization to modify its formal strategic plan or organizational strategy in response to changing opportunities or threats resulting from environmental changes. It is also a key factor in facing uncertainties and market risks in volatile business environments [20]. The organization's ability to respond to changing market conditions enhances operational performance. Planning flexibility, as an important dimension of strategic flexibility, helps organizations seize unexpected opportunities resulting from environmental changes and enables them to quickly modify their plans to exploit these opportunities [21].

Resource flexibility: refers to the ability to pool flexible resources for multiple uses in order to give an organization strategic options for pursuing alternative courses of action and responding to developments in the competitive environment [22]. The concept of resource flexibility emphasizes the ability to pool resources with multiple uses, expand the resource base, and align available opportunities. Organizations with better resource flexibility deploy their resources across a wider range of alternative uses, at lower costs and with less time to switch between uses. Resource flexibility reduces resource rigidity, expands the range of their use, and facilitates organizational changes and adjustments. Resource flexibility is a fundamental concept in business as it relates to identifying potential changes in the deployment and use of internal resources. The term "resource flexibility" refers to resources that have the capacity to produce many variations of a product. Because resource flexibility is linked to the distribution network with deferred production, investigating production flexibility requires a hierarchical analysis of the different strategic work levels that require space, IT systems, and personnel who can integrate and coordinate these resources during the process. This flexibility reflects the organization's ability to acquire resources with diverse uses, in addition to offering the use of current resources. Improving the level of response to changes in the external business environment by adjusting part of the service delivery plan is also important. Resource flexibility is a key factor for organizations to achieve a competitive advantage by fully utilizing and benefiting from these organizational resources. There is much discussion about how to leverage the organization's available resources to enhance its competitive position, which ultimately leads to improved performance levels. Resource flexibility means the ability of the organization to deal with what it has of material, financial, knowledge and human capabilities, and skills that give the ability to activate options through management information systems. The organization's flexibility is achieved through its internal and external resources. Flexibility includes product design, employee flexibility and organizational culture. Coordination flexibility refers to the ability to create new combinations of resources through internal coordination processes, as well as ensuring flexible resource allocation. Strategic flexibility is an organizational principle for structuring and coordinating various resources and functional units. Routine and structural constraints, particularly on knowledge transfer, sharing, and application, have been identified as negatively impacting innovation performance [22]. The ability to easily allocate and coordinate these resources is crucial. By expanding, changing, reallocating, or modifying existing resources, capabilities, or competencies, an organization can seize identified opportunities and defend existing competitive advantages [23]. Organizations with high coordination flexibility can contribute to the rapid integration of innovative and complementary assets and generate greater profits from innovation. In dynamic product markets, organizations with a high level of coordination flexibility in product innovation can adapt quickly by creating new restructuring processes and efficiently reallocating resources. Coordination flexibility is a critical factor in the successful implementation of change. Strategically, coordination flexibility refers to the ability to quickly acquire new resources and efficiently reintegrate existing and external resources. Coordination flexibility not only helps organizations overcome obstacles created by organizational processes and procedures but also facilitates collaboration among different organizational entities. It enables organizations to mitigate the rigidity of routine procedures. With reduced rigidity, organizations can break down their organizational communication mechanisms and transmit timely information about environmental changes, fostering open communication and the long-term exchange of ideas. Coordination flexibility also enables organizations to quickly integrate available resources and adapt to environmental changes, thus promoting innovation. Furthermore, coordination flexibility provides strategic options for the innovation pathway. It not only promotes organizational change and renewal but also creates conditions conducive to product innovation. Coordination flexibility overcomes organizational rigidity and is positively correlated with product innovation [1]. Planning flexibility, resource flexibility, and coordination flexibility are facilitated when these dimensions of strategic flexibility are properly addressed through flexible planning. Resource flexibility enhances operational performance. This dimension is useful for organizations to make strategic choices, as intellectual capital is essential for rapidly and cost-effectively transforming market strategy, reducing market risks, and enhancing adaptability to the environment. Strategic flexibility in planning, resources, and coordination helps

organizations quickly identify and adapt to environmental changes and provides more important strategic opportunities to improve operational performance.

7. Assumptions: Organizational mindfulness and strategic flexibility

A lot of studies indicate that Organizational mindfulness is a core capability that helps organizations respond effectively and efficiently to crises [24], [25]. Furthermore, there is substantial evidence linking Organizational mindfulness to strategic organizational capabilities at the personal and environmental levels, which in turn influences adaptive capabilities and effectiveness. Organizational mindfulness among leaders contributes to enhancing dynamic capabilities, thereby strengthening the organization's ability to perceive environmental signals, seize opportunities, and restructure resources and capabilities. In this context, vigilance also promotes organizational sustainability. The dynamic capabilities perspective is closely related to strategic flexibility, as Organizational mindfulness significantly assists in identifying the nuances of external changes. This, in turn, impacts environmental adaptation and the strategic flexibility of leadership thinking, whether dealing with internal organizational procedures or not. Environmental variables affect organizations, and Organizational mindfulness among leaders helps them develop a wide range of alternatives and actions, enhancing strategic resilience. Furthermore, highly resilient organizations are those capable of mitigating the effects of disruptive environmental conditions with minimal failures. A key characteristic shared by these organizations is Organizational mindfulness. Organizational mindfulness is a combination of continuously scrutinizing current expectations and the ability to formulate new expectations based on unprecedented events [25]. Organizations must proactively prepare for disruptions and possess the capacity to implement decisions quickly and efficiently to maintain performance during turbulent periods. In recent years, the increasing frequency of large-scale adverse events has spurred public and academic interest in understanding resilience.

A. H1: How does Organizational mindfulness affect strategic flexibility?

Preoccupation with failure, reluctance to simplify procedures, process sensitivity, and strategic flexibility: Through preoccupation with failure, management seeks multiple explanations for environmental risks or vulnerabilities. This preoccupation, which focuses on emerging failures, can stimulate focus and potentially provide clear insights into environmental degradation and how the organization's actions or inactions contribute to it [4]. Reluctance to simplify procedures may indicate a search for information that supports the organization's beliefs and expectations. Vigilant organizations resist simplification, paying close attention to all events, especially unusual ones, and seeking ways to understand them. This reluctance to simplify procedures involves taking deliberate steps to question assumptions within vigilant organizations, constantly seeking and evaluating uncertain information to develop a more accurate picture of current processes and procedures, thus providing a better understanding of potential future. Process sensitivity in organizations also means sensitivity to interrelated transactions. Process sensitivity focuses on reality rather than intentions within the organization. These organizations maintain awareness by paying attention to the details of ongoing activities and processes to identify minor problems that may escalate.

B. H2: How does preoccupation with failure, hesitation in streamlining procedures, and process sensitivity affect strategic resilience?

Commitment to Resilience, Respect for Expertise, and Strategic Resilience: The principles of commitment to resilience and respect for expertise represent two knowledge pillars that systematically complement each other to enhance strategic resilience in organizations. While commitment to resilience refers to an organization's ability to design operational systems capable of anticipating, containing, and dynamically recovering from disruptions, respect for expertise leads to the redistribution of decision-making authority in favor of frontline actors who are best positioned to read subtle signals of environmental change. This decentralized distribution of operational expertise enables the organization to overcome bureaucratic inertia, thereby accelerating strategic response times. When these two principles interact, they generate a high degree of adaptability that allows the organization to frequently and effectively reshape its strategies without compromising operational stability. In short, commitment to resilience builds the operational "muscle" of resilience, while respect for expertise ensures that this muscle is "steered" based on precise field intelligence, resulting in strategic resilience as their synergistic outcome [26].

C. H3: How does a commitment to flexibility and respect for expertise impact strategic resilience?

Organizational mindfulness, Coordination Flexibility, Resource Resilience, and Planning: Organizational mindfulness enhances coordination flexibility by accelerating the flow of information and facilitating the redistribution of tasks among units when unexpected changes occur. It also promotes resource resilience through the early detection of resource surpluses or shortages, allowing for their dynamic reallocation and alternative use. These

processes enable the organization to adapt quickly and efficiently to shocks without significant disruption. Thus, Organizational mindfulness is an enabler of operational and strategic resilience. Furthermore, Organizational mindfulness creates real-time feedback loops that enable different units to redistribute roles in a synchronized and cohesive manner in response to contextual changes. This vigilance also reduces the implicit costs of coordination by fostering transparency and organizational trust, allowing human and material resources to flow toward the most pressing priorities with greater speed. At the leadership level, leaders practicing Organizational mindfulness employ a managerial approach of on-site monitoring to identify resource needs early on, before they escalate into operational bottlenecks. In this way, Organizational mindfulness not only enables resilience but also becomes a proactive mechanism for building adaptive memory that can be quickly recalled during crises.

D. H4: How does organizational awareness affect the flexibility of coordination, resources, and planning?

The hypothetical diagram can also be constructed as follows: Figure 1.

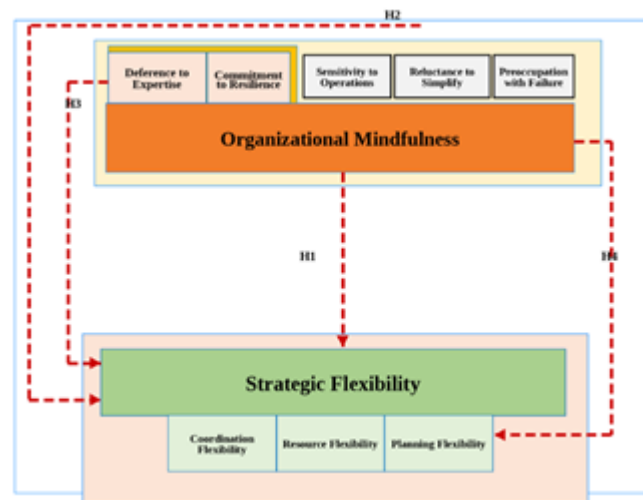


Figure 1. Study model

8. Methodology

Study Field Description (University of Mosul): The research field is the University of Mosul; a governmental academic and scientific institution affiliated with the Iraqi Ministry of Higher Education and Scientific Research. It is the second largest university in Iraq and one of the oldest universities in the Middle East, established in 1967. The university boasts a vast diversity of scientific, humanities, medical, and engineering disciplines, comprising 25 colleges and 12 specialized research, scientific, and service centers. The research population consists of the university's administrative leadership, including deans, vice deans (both academic and administrative), center directors, and heads of academic departments, totaling approximately 222 individuals. To collect data, a questionnaire was distributed in both paper and electronic formats to the target population. 210 valid questionnaires were returned for statistical analysis, representing the actual research sample, resulting in a 95% response rate and sample representation.

9. Description and Analysis of the Demographic and Functional Characteristics of the Study Sample:

We present an analytical overview of the personal and functional characteristics of the study sample, which consists of administrative leaders at the University of Mosul. This analysis is based on the data and information they provided in the first section of the questionnaire. These variables include administrative position, gender, age group, educational qualification, and years of service. The distribution of the sample according to these variables is detailed as follows: Table 2.

Table 2. Description of the Respondents

	Indicators	Frequency and Percentage
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Demographic Information		Frequency	Percentage
Administrative Position	Dean	20	9.5
	Associate Dean	46	21.9
	Department Head	132	62.8
	Center Director	12	5.7
Total		210	100%
Gender	Male	175	83.3
	Female	35	16.6
Total		210	100%
Age Group	30 years or less	14	6.6
	31-40 years	45	21.4
	41-50 years	91	43.3
	51 years or more	60	28.5
Total		210	100%
Academic Qualification	Bachelor's Degree	0	0
	Higher Diploma	0	0
	Master's Degree	0	0
	Doctorate	210	100%
Total		210	100%
Years of Service	Less than 5 years	9	4.2
	5-10 years	22	10.4
	11-15 years	41	19.5
	16-20 years	59	28
	20 years or more	79	37.6
Total		210	100%

Reference: Prepared by the researcher based on the questionnaire form.

10. Exploratory Factor Analysis (EFA)

Explore factor analysis is an advanced statistical method that aims to reduce and simplify the vast amount of data obtained through questionnaires. It does this by grouping observed variables (items) that measure a specific characteristic into main factors or dimensions (latent variables). The resulting dimensions are characterized by internal

homogeneity of their items and external variation from other dimensions, thus ensuring the interpretation of the greatest possible amount of the overall data variance. Because our current study adopts a behavioral approach to assessing the reality of administrative leadership, this analysis is a crucial tool for revealing the practical structure of the measures and their conformity with the theoretical framework. To ensure the accuracy and reliability of the outputs of this analysis, modern statistics require the availability of a set of preconditions in the data, which can be summarized as follows:

1. Normality (Normal Distribution): The distribution of respondents' answers must follow a normal distribution. This condition is systematically and automatically met when the sample size is large.
2. Sample Size Adequacy (KMO): This measures the suitability of the sample size for factor analysis. Statistically, the Kaiser-Meyer-Olkin scale value must be at least 0.05.
3. Autocorrelation/Multicollinearity: This is tested by examining the correlation matrix. The determinant value must be greater than 0.00001, thus ruling out near-perfect correlations between items that could skew the analysis results.
4. Reliability of the Correlation Matrix (Bartlett's Test): This verifies the existence of substantial and statistically significant correlations between items that justify grouping them into common factors. The Bartlett's Test of Sphericity must be statistically significant (i.e., less than 0.05).
5. Theoretical Validity: The statistically extracted dimensions or factors must be meaningful, interpretable, and applicable within the theoretical framework of the variables under study.

11. Verification of the Conditions for Applying Exploratory Factor Analysis

The results in Table 3 indicate that all the conditions for exploratory factor analysis are met for both variables (Organizational mindfulness) and (strategic flexibility), as follows:

- The KMO value for both the (Organizational mindfulness) and (strategic flexibility) variables was (0.916) and (0.940), respectively, which is greater than (0.50). This indicates that the sample size is sufficient to perform exploratory factor analysis for each variable.
- The determinant value for both (Organizational mindfulness) and (strategic flexibility) was (0.000011) and (0.000052), respectively. Since these are positive values and greater than zero, this indicates the absence of autocorrelation between the observations for each variable.
- The probability value associated with Bartlett's Test of Sphericity for both the (Organizational mindfulness) and (Strategic Flexibility) variables was (0.000) for each of them respectively, which is less than (0.05). This indicates that there is a significant correlation between the items within each variable.

Table 3. Verification of the conditions for applying exploratory factor analysis

Variable	Test		Value	Decision
Organizational Mindfulness	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.916	Good
	Determinant		0.000011	Good
	Bartlett's Test of Sphericity	Approx. Chi-Square	2724.831	Good
		df.	210	
		P-value	0.000	
Strategic Flexibility	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.940	Good
	Determinant		0.000052	Good

	Bartlett's Test of Sphericity	Approx. Chi-Square	2003.335	Good
		df.	210	
		P-value	0.000	

12. Construct Validity (Explorating Factor Analysis)

To ensure the construct validity of the Organizational mindfulness variable and to determine the ability of the scale items to represent the underlying dimensions to which they belong within the studied organizational environment, Exploratory Factor Analysis (EFA) was initially used. The suitability of the data for analysis was verified using the KMO (Knowledge, Measure, Opportunity, Monetary, and Maturation) test, which yielded a value of 0.916, a very high value exceeding the minimum acceptable threshold of 0.50. Furthermore, Bartlett's test yielded a value of 2724.831 at a significance level of 0.000, confirming the existence of substantial correlations between the items that justified the analysis. Using Principal Component Analysis (PCA) with Varimax rotation, five factors (dimensions) of the Organizational mindfulness variable were extracted based on the eigenvalue being greater than one. These factors collectively explained 62.68% of the total variance. Table 4 shows the rotation and saturation matrix. For paragraphs, values below (0.40) are excluded to ensure the accuracy of the factor structure:

Table 4. Item Saturations Values for each dimension, Latent Root Values, and Explained Variance Value for the extracted dimensions of the Organizational mindfulness variable

Rotated Factor Matrix							
Items	Factor Dimensions					Eigenvalue	Explained Variance
	1	2	3	4	5		
X23	0.801					9.781	62.68 %
X22	0.793						
X20	0.766						
X24	0.749						
X16	0.739						
X21	0.729						
X19	0.699						
X13	0.677						
X15	0.660						
X17	0.558						
X2	0.540						
X14	0.422						
X8		0.809				2.720	
X7		0.774					

X9		0.615					
X5		0.602					
X10		0.523					
X1			0.761				
X3			0.447				
X12			0.408				
X4				0.723			
X6				0.488			
X25				0.469			
X11					0.684		
X18					0.414		

Reference: Prepared by the researcher based on the results of the statistical analysis using (SPSS V26)

Table 4 above shows that the respondents' answers led to some overlap and integration of the theoretical dimensions into common factors (such as the concentration of the respect for experience (DE) and commitment to flexibility (CR) items within the first factor). This overlap is not a statistical anomaly, but rather a natural outcome of applying the scales in different cognitive environments. In the environment of the studied organization (Iraq), "administrative flexibility" and "respect for experience" are viewed as intertwined concepts; respondents believe that flexibility and crisis management can only be achieved by consulting with experienced individuals. This cognitive integration confirms the environmental and real-world validity of the scale in representing the responses of university leaders.

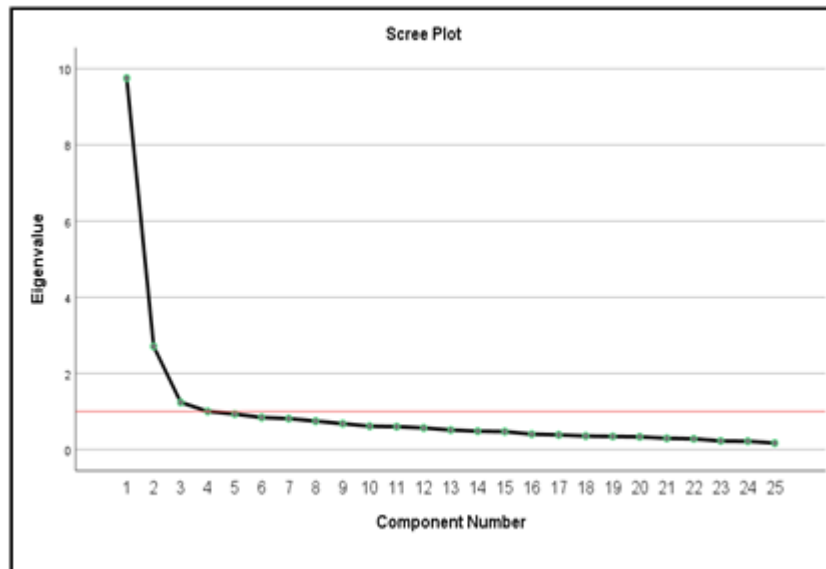


Figure 2. Determining the number of dimensions of the Organizational mindfulness variable based on the value of the latent root greater than or equal to one.

13. Construct validity of the strategic flexibility variable (exploratory factor analysis) (EFA)

To further validate the construct validity of the study's scales, the data for the strategic flexibility variable underwent exploratory factor analysis. The results showed an ideal fit for the data; the KMO (Knowledge, Monetary, and Opportunity) value was 0.940, a very high value approaching 1 and significantly exceeding the lower limit of 0.50. Bartlett's test (2003) yielded a significance level of 0.000, providing conclusive statistical evidence of substantial correlations between the scale items. Using principal component analysis (PCA) and varimax rotation, three principal factors representing the dimensions of strategic flexibility were identified. Table 5, shows the rotation matrix, where the sorting and ascending order of the loads was adopted, keeping the highest load value for items that showed cross-loading and excluding lower values, as well as hiding loads that are less than (0.40) to ensure statistical power and a clean factor structure: The table 5 indicates that the strategic flexibility items are grouped into three main factors. However, some items theoretically related to resource flexibility (RF) are conceptually integrated with planning flexibility (PF) in the first factor, while others are integrated with coordination flexibility (CF) in the second and third factors. This overlap is methodologically justified by the nature of the administrative environment in the organization under study. In practice, university leaders do not separate "resource availability" from "how to coordinate or plan for it." The process of redistributing personnel or budgets (resources) is essentially an administrative process fully integrated with coordination and planning to address crises. This integration reflects the validity of the scale in expressing the reality of the integrated strategic thinking of the study sample.

Table 5. Item Saturations Values for each dimension and the values of the latent root and the explanatory variance for the extracted dimensions of the strategic flexibility variable

Items	Rotated Factor Matrix			Eigenvalue	Explained Variance Ratio
	Factor 1	Factor 2	Factor 3		
Y27	0.784				
Y29	0.747				
Y30	0.670			8.401	
Y31	0.640				
Y28	0.630				
Y32	0.591				
Y38		0.777			
Y40		0.722			68.91 %
Y35		0.703		1.011	
Y26		0.588			
Y34		0.515			
Y39		0.504			
Y36			0.826		

Y37			0.752	0.925	
Y33			0.622		

Reference: Prepared by the researcher based on the results of the statistical analysis using (SPSS V26)

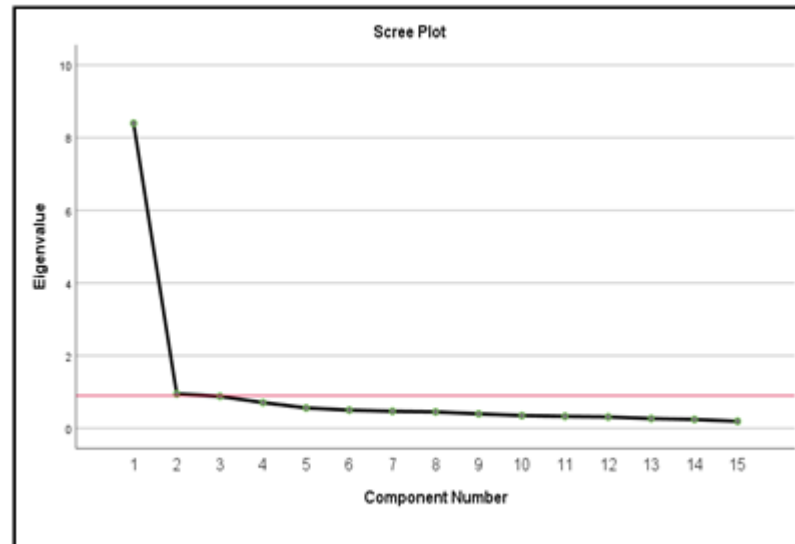


Figure 3. Determining the number of dimensions of the strategic flexibility variable based on the value of the latent root

14. Summary of the description, and diagnosis of the Organizational mindfulness variable

Table 6 indicates a high level of responsiveness among respondents to the five dimensions of Organizational mindfulness (hesitation to simplify procedures, respect for expertise, commitment to flexibility, sensitivity to processes, and preoccupation with failure). The overall agreement rate was 76.13%, with a mean score of 3.804 and a standard deviation of 0.807. This reflects a tangible awareness among administrative and academic leaders at the University of Mosul of the importance of adopting vigilant organizational practices.

Table 6. Summary of the description of the Organizational mindfulness variable

No.	Dimensions	Agreement %	Arithmetic Mean	Standard Deviation	Response Rate %	Coefficient of Variation %	Rank
1	Reluctance to Simplify Procedures	84.5	4.157	0.733	83.14	17.69	First
2	Deference to Expertise	76.5	3.924	0.807	78.48	20.52	Second
3	Commitment to Resilience	72.2	3.894	0.856	77.89	22.07	Third
4	Sensitivity to Operations	71.3	3.855	0.830	77.10	21.40	Fourth
5	Preoccupation with Failure	68.8	3.804	0.909	76.08	24.21	Fifth
	Overall Index of the Organizational Mindfulness Variable	76.13	3.958	0.807	79.15	20.42	

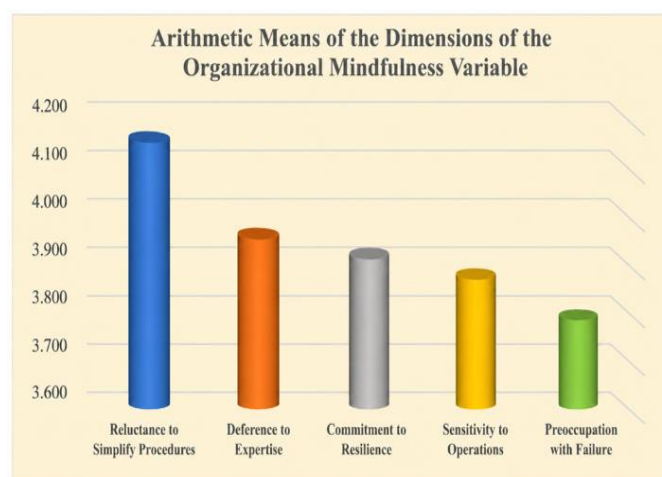


Figure 4. Arithmetic means for the dimensions of the organizational mindfulness variable).

Reference: Prepared by the researcher based on the outputs of SPSS V.26 (Microsoft Excel)

As shown in Figure 4, the sub-ranking level, the dimension of "hesitation to simplify procedures" ranked first with an agreement rate of 84.5% and a mean score of 4.157. This underscores the significant contribution of this dimension to enhancing Organizational mindfulness and the administration's commitment to in-depth problem analysis and avoiding superficial explanations. The dimension of "respect for expertise" came in second with an agreement rate of 76.5% and a mean score of 3.924, indicating that the university provides ample space for technical and academic experts in critical situations. The dimension of "commitment to flexibility" ranked third with an agreement rate of 72.2% and a mean score of 3.894. This was followed by the dimension of "sensitivity to processes" in fourth place, with an agreement rate of 71.3% and a mean score of 3.855. The dimension of "preoccupation with failure" came in fifth and last place, with an agreement rate of 68.8% and a mean score of 3.804. Despite its last ranking, it remains within the high and positive range. This clearly and scientifically indicates the presence of the five dimensions of organizational awareness in the administrative environment of the university under study and their

conscious adoption by its leadership. This represents a strong foundation and a logical basis for testing the main hypotheses of the study.

15. Summary of the description and diagnosis of the strategic flexibility variable

Table 7 indicates that 70.63% of respondents agreed on the overall indicators representing the three dimensions of strategic flexibility: coordination flexibility, planning flexibility, and resource flexibility. The overall mean score was 3.817, and the standard deviation was 0.806. This positive assessment reflects the high level of strategic flexibility possessed by the administrative leadership at the University of Mosul, enabling them to adapt effectively to environmental changes.

Table 7. Summary of the description and diagnosis of the strategic flexibility variable

Rank	Coefficient of Variation %	Response Rate %	Standard Deviation	Arithmetic Mean	Agreement %	Dimensions	No.
First	19.88	77.47	0.769	3.873	74.4	Coordination Flexibility	1
Second	21.89	76.16	0.817	3.808	70.3	Planning Flexibility	2
Third	22.29	75.43	0.831	3.771	67.2	Resource Flexibility	3
	21.35	76.35	0.806	3.817	70.63	Overall Index of the Strategic Flexibility Variable	

Reference: Prepared by the researcher based on the outputs of SPSS V.26 (Microsoft Excel)

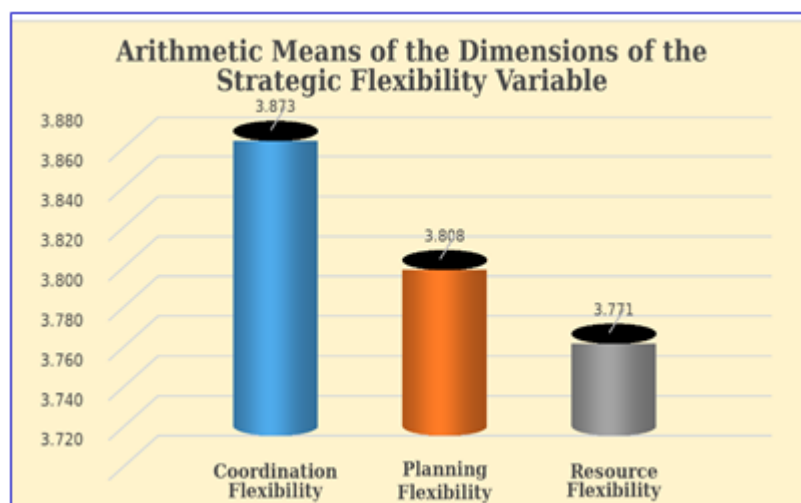


Figure 5. Arithmetic means for the dimensions of the strategic flexibility variable

As shown in Figure 5, the terms of dimension ranking, coordination flexibility ranked first with 74.4% agreement and a mean score of 3.873, confirming the university's efficiency in directing and coordinating its resources smoothly. Planning flexibility came in second with 70.3% agreement and a mean score of 3.808, reflecting the ability to formulate alternative paths and plans. Resource flexibility ranked third with 67.2% agreement and a mean score of 3.771. In general, these positive levels indicate the availability of strategic flexibility dimensions at the university under study and their clear adoption by its administrative leadership. This completes the diagnosis of the field study variables and paves the way for testing the correlation and influence relationships (main hypotheses) between Organizational mindfulness and strategic flexibility.

16. Testing the Study Model (Confirmatory Factor Analysis)

Testing the measurement model is the first step in testing the study model. This ensures the model's reliability, validity, and quality in measuring underlying factors, identifies weaknesses, and arrives at logical conclusions based on a sound scientific methodology. To achieve this, confirmatory factor analysis was employed. Before reviewing the results of the confirmatory factor analysis (CFA), testing the normality of the field data is a crucial step in determining the most statistically appropriate estimation method for constructing structural models. To ensure the highest degree of methodological accuracy, the researcher adopted a two-stage sequential approach to verify the normality of the distribution, using the SPSS and AMOS statistical packages, as follows:

First: Evaluating the Measurement Model (Confirmatory Factor Analysis - CFA)

1- Model Fit Indices:

After fulfilling the initial statistical requirements and testing the normality of the data, the first stage of structural equation modeling (SEM) was implemented, which involved applying Confirmatory Factor Analysis (CFA). This analysis aims to test the construct validity of the measurement model for the two study variables (Organizational mindfulness and strategic flexibility). Unlike exploratory analysis, confirmatory analysis restricts the model's trajectories to the pre-established theoretical framework adopted by the researcher, accurately testing the extent to which each item fits and saturates its sub-dimension and latent construct. Verifying the quality of the measurement model and the convergent and differential validity is a governing methodological condition that must be met before proceeding to the second stage, which is testing the structural hypotheses and influence relationships (Hair et al., 2022, 115-118).

This section aims to assess the construct validity of the study scale and its suitability to the hypothetical model by verifying the items of the study variables: Organizational mindfulness (as the independent variable) and strategic flexibility (as the dependent variable). This is achieved through confirmatory factor analysis (CFA), a fundamental application of structural equation modeling (SEM).

Although the Maximum Likelihood (ML) method is the most common and robust analytical method in AMOS software, it theoretically requires a multivariate normality distribution. Since the current study data violated the multivariate normality requirement, the study did not resort to less precise alternative methods such as unweighted least squares (ULS). Instead, it adopted the most robust and recently recommended statistical method for this situation: bootstrapping with 2000 samples while maintaining the ML method. This approach allows for the correction of estimates and provides accurate standard errors unaffected by non-normal distributions, thus ensuring robust and reliable fit indices (Byrne, 2016, p. 315; Hair et al., 2022, pp. 161-165).

To assess the goodness of fit of the hypothetical model with field data, the current study avoided relying on traditional indices that are heavily influenced by sample size (such as GFI and AGFI) and instead adopted a modern indices package recommended by leading statistical theorists (Hair et al., 2022, p. 118), which consists of the following:

1. Standardized Chi-squared (CMIN/DF): This represents the ratio between the chi-squared value and the degrees of freedom. It is one of the most important indicators of economic fit, with a value less than 3 indicating excellent fit and a value less than 5 indicating acceptable fit.
2. Comparative Fit Index (CFI): This index compares the study model to the null (independent) model and is insensitive to sample size. Its value ranges from 0 to 1, with a value greater than 0.90 indicating good fit.
3. Tucker-Lewis Index (TLI): Also called the non-standardized fit index, this index compares the proposed model to the independent model, penalizing complex patterns. An acceptable value for this index should be close to or greater than 0.90.
4. Root Mean Squared Approach Error (RMSEA): This index measures the amount of unexplained error in the model per degree of freedom. A value equal to or less than 0.08 indicates acceptable fit quality, while less than 0.05 represents excellent fit.

To verify the efficiency of the measures used, AMOS V.26 software was employed to test the path diagram of the comprehensive measurement model. To improve fit quality and achieve the best possible agreement between the model and the sample data, the modification indices were reviewed. Based on statistical and logical justifications, some systematic improvements (model specification) were implemented, including the exclusion of item SO11 due to its weak regression weight and negative impact on dimension consistency.

Furthermore, covariance was allowed between the random errors of certain items (e.g., e12 with e13, and e36 with e37) due to unexplained covariance resulting from the similarity in their wording within the questionnaire. After

these systematic modifications and the application of bootstrapping, the final model was stabilized as shown in Figure 9 below.

It highlights the study dimensions, standardized regression weights, and correlation values:

Reference: Prepared by the researcher based on the results of the statistical program (AMOS V.26)

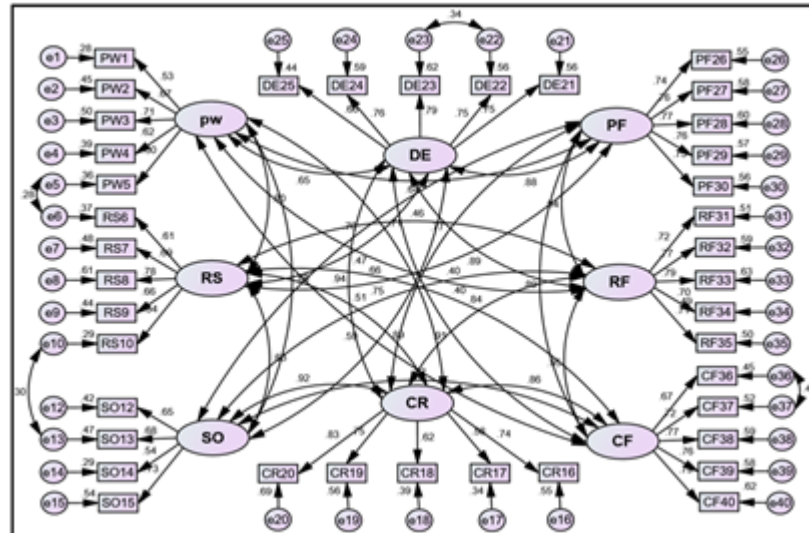


Figure 6. illustrates the initial study model using confirmatory factor analysis.

17. Model Fit Indices

After performing the analysis on the modified model, fit indices were extracted to verify the extent to which the model matched the field sample data. The statistical results indicate that the model has a good and acceptable fit quality, justifying its adoption in the subsequent stages of hypothesis testing. Table 8 below summarizes the most prominent fit indices that were used and compares them with the approved statistical criteria:

Table 8. Summary of Conformity Quality Indicators for Confirmatory Factor Analysis

Statistical Indicator	Symbol	Acceptance Criterion	Model Result	Evaluation
Normed Chi-Square	CMIN/DF	Less than (5) is acceptable, and less than (3) is excellent	1.976	Excellent
Root Mean Square Error of Approximation	RMSEA	Less than or equal to (0.08)	0.068	Very Good
Comparative Fit Index	CFI	Close to or exceeds (0.90)	0.967	Good
Tucker-Lewis Index	TLI	Close to or exceeds (0.90)	0.953	Good

Reference: Prepared by the researcher based on the results of the statistical program (AMOS V.26)

The table above shows that the CMIN/DF value of 1.976 is within the ideal range, and the RMSEA index showed a very good level of 0.068. Given the complexity of the current model, which includes eight main dimensions and a large number of items, the values of the Comparative Fit Index (CFI) and the TLI are methodologically sound and confirm the model's stability and structural validity.

18. Composite Reliability and Convergent Validity

After verifying the conformity indicators of the measurement model, advanced validity and reliability tests were conducted for the study items and dimensions. To verify the consistency of respondents' answers, the composite reliability coefficient (CR) was calculated. The results showed that all composite reliability values for the study dimensions ranged between 0.750 and 0.870, exceeding the accepted statistical standard of 0.70, thus confirming the very high reliability of the measurement instrument (Hair et al., 2022, pp. 111-112). As for verifying convergent validity, which reflects the degree of correlation between items within a single dimension, the Average Variance Extracted (AVE) index was used. Although some AVE values for several dimensions appeared slightly below the standard threshold (0.50), the study was based on the sound methodological principle established by Fornell and Larcker (1981, p. 46), which explicitly states that if the composite reliability (CR) of a variable is greater than 0.60, the convergent validity of the model is considered statistically valid even if the AVE value is less than 0.50. Since all composite reliability values in this study exceed 0.75, the convergent validity is considered acceptable and meets the methodological requirements, as shown in Table 9 below:

Table 9. Values of composite reliability and convergent validity for the dimensions of the study model.

Average Variance Extracted (AVE)	Composite Reliability (CR)	Dimension Symbol	Study Dimensions (Latent Variables)
0.436	0.792	RS	Preoccupation with Failure
0.394	0.763	PW	Reluctance to Simplify Procedures
0.553	0.860	DE	Sensitivity to Operations
0.571	0.870	PF	Commitment to Flexibility
0.431	0.750	SO	Respect for Expertise
0.545	0.857	RF	Planning Flexibility
0.553	0.860	CF	Resource Flexibility
0.505	0.834	CR	Coordination Flexibility

Reference: Prepared by the researcher based on the results of the statistical program (AMOS V.26)

19. Testing the Fourth Main Hypothesis (Effect Relationship)

The content of this analysis reflects the validation of the fourth main hypothesis, which states: "There is no statistically significant effect of Organizational mindfulness on strategic flexibility at the macro level in the organization under study," at a significance level of (0.05). To test this hypothesis, the outputs of Structural Equation Modeling were used with the structural model in AMOS v.26. Figure 7 and Table 10 illustrate the overall effect path, the standard effect strength, and the critical ratio that determines the significance of the path.

Reference: Prepared by the researcher based on the results of the statistical program (AMOS V.26)

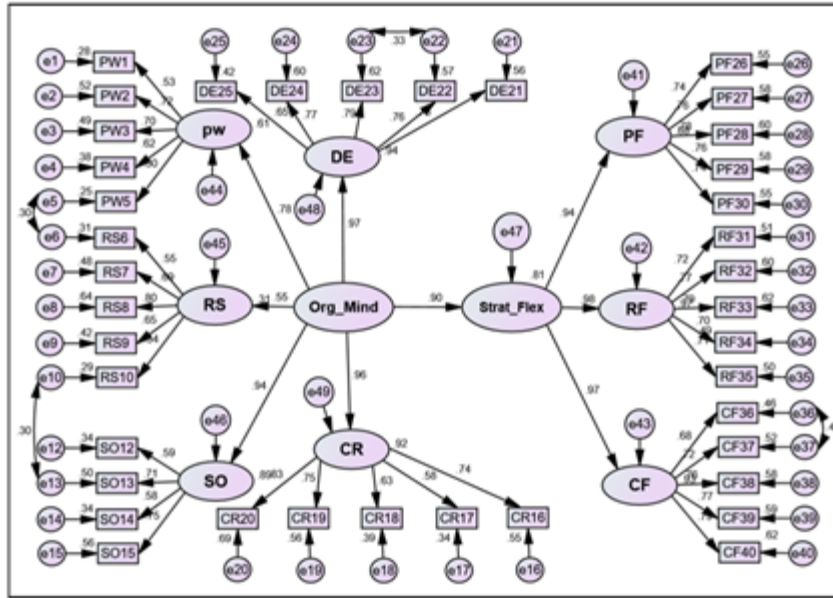


Figure 7. The structural model of the impact of Organizational mindfulness on strategic flexibility

Table 10. Results of the structural model for testing the impact of Organizational mindfulness on strategic resilience (macro level)

Decision	Significance Level (P)	Critical Ratio (C.R)	Standard Error (S.E)	Unstandardized Effect Coefficient (B)	Standardized Effect Coefficient (SRW)	Effect Path
Reject the null hypothesis	***	8.352	0.130	1.089	0.902	Organizational mindfulness $\leftrightarrow$ Strategic flexibility

Reference: Prepared by the researcher based on the outputs of (AMOS. V26)

The statistical data in Figure 7 and the table 10 indicate a direct and highly significant positive effect of Organizational mindfulness on strategic flexibility. The standardized impact factor (SRW) was 0.902, while the non-standardized impact factor was 1.089. This means that increasing the Organizational mindfulness level by one unit will lead to an improvement in its strategic flexibility level of 1.089 units. This finding is further strengthened by the critical ratio (CR) value of 8.352, a statistically significant value as it exceeds the established statistical standard of 1.196. This value is also accompanied by a significance level of ***, indicating a near-zero margin of error (less than 0.001). Additionally, the multiple correlation coefficient (R^2) in the structural model is 0.81, meaning that Organizational mindfulness explains 81% of the changes in the organization's strategic flexibility. Based on these scientific data and the resulting findings, the null hypothesis ($H0:4$) is rejected, and the alternative hypothesis, which states: "There is The study found that Organizational mindfulness had a statistically significant impact on strategic resilience at the macro level within the organization under investigation. This definitively demonstrates that vigilance practices are a fundamental and effective driver for building strategic resilience.

20. Testing the first sub-hypothesis of the fourth hypothesis ($H0:4a$)

The content of this analysis reflects the validation of the first sub-hypothesis ($H0:4a$), which states: "Organizational mindfulness has no statistically significant effect at the macro level on the dimensions of strategic

flexibility (planning flexibility, resource flexibility, and coordination flexibility) in the organization under study," at a significance level of 0.05.

To test this hypothesis, the outputs of structural equation modeling in AMOS v.26 were used. Figure 8 and Table 11 below illustrate the effect paths, regression coefficients, and critical ratios that determine the significance of each path.

Reference: Prepared by the researcher based on the outputs of (AMOS. V26)

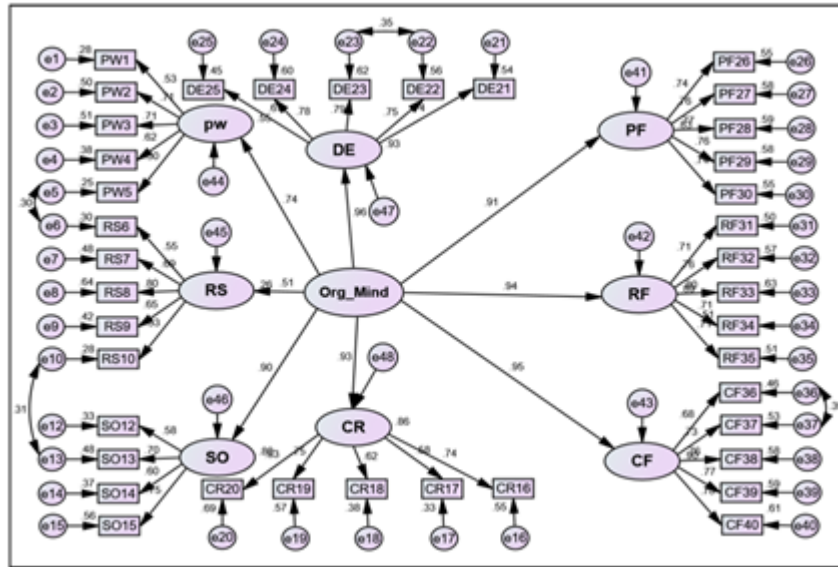


Figure 8. The structural model for testing the impact of Organizational mindfulness (macro) on the dimensions of strategic resilience.

Table 11. Results of the structural model for testing the impact of Organizational mindfulness on the dimensions of strategic resilience.

Decision	Significance Level (P)	Critical Ratio (C.R)	Standard Error (S.E)	Unstandardized Effect Coefficient (B)	Standardized Effect Coefficient (SRW)	Effect Path
Reject the null hypothesis	***	8.529	0.122	1.037	0.948	Organizational mindfulness ← Coordination flexibility (CF)
Reject the null hypothesis	***	8.791	0.140	234.1	0.944	Organizational mindfulness ← Resource flexibility (RF)
Reject the null hypothesis	***	8.917	0.129	1.147	0.910	Organizational mindfulness ← Planning flexibility (PF)

Reference: Prepared by the researcher based on the outputs of (AMOS. V26)

The statistical data in the table above indicates a direct and highly significant positive effect of Organizational mindfulness (as an independent variable) on all dimensions of strategic flexibility (as dependent variables). The strongest impact of Organizational mindfulness was observed in the Coordination Flexibility (CF) dimension, with a standardized impact factor (SRW) of 0.948. This was followed by the impact on the Resource Flexibility (RF)

dimension, with a SRW of 0.944, and then the impact on the Planning Flexibility (PF) dimension, with a SRW of 0.910. The results also showed that all critical ratio (C.R.) values for the three impact pathways exceeded the established statistical standard (1.96) and were associated with a significance level of (***), confirming that the margin of error is less than 0.001. Based on these statistical findings, the null hypothesis (H0:4a) is rejected, and the alternative hypothesis is accepted. This demonstrates that adopting Organizational mindfulness practices directly and effectively enhances and develops the dimensions of strategic flexibility at the university under study.

21. Testing the Second Sub-Hypothesis of the Fourth Hypothesis (H0:4b)

The content of this analysis reflects the validity of the hypothesis verification. The second sub-subject (H0:4b) states: "There is no statistically significant effect of the Organizational mindfulness dimensions (preoccupation with failure, reluctance to simplify procedures, sensitivity to processes, commitment to flexibility, and respect for expertise) on overall strategic flexibility in the organization under study," at a significance level of 0.05. To test this hypothesis, the outputs of structural equation modeling in AMOS V.26 were used. Figure 9 and Table 12 below illustrate the effect paths, regression coefficients, and critical ratios that determine the significance of each path.

Reference: Prepared by the researcher based on the outputs of (AMOS. V26)

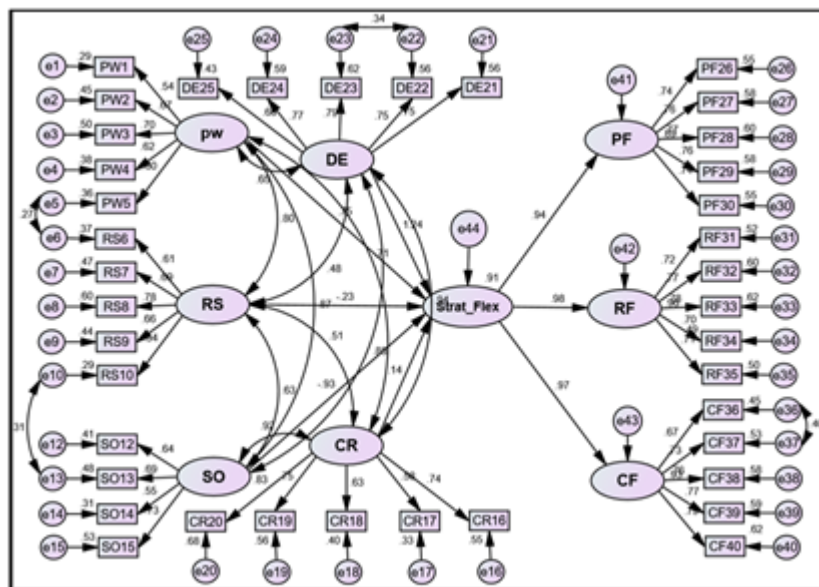


Figure 9. The structural model for testing the impact of strategic flexibility (macro) on the dimensions of Organizational mindfulness.

The statistical data extracted from the table above indicates a direct and highly significant positive impact of each dimension of Organizational mindfulness on strategic flexibility. All critical ratio (CR) values exceeded the statistical standard of 1.96, and all trajectories were associated with a significance level of (***), which represents a significance level of less than 0.05.

An analytical comparison of the impact strength of these dimensions reveals that the "Respect for Expertise" dimension ranked first as the strongest driver of strategic flexibility, with an impact factor (SRW) of 0.925 and an explanatory power (R^2) of 0.91. This reflects the paramount importance the organization under study places on relying on experienced individuals in making critical decisions. This was followed by the dimension of "commitment to flexibility" with an impact factor of 0.858, and then the dimension of "sensitivity to processes" with an impact factor of 0.817. The dimensions of "preoccupation with failure" and "hesitation to simplify procedures" also showed a significant impact, but it was relatively less pronounced compared to the other dimensions. Taken together, these results indicate that Organizational mindfulness, with its behavioral and mental dimensions, constitutes an "integrated driving force" for enhancing university resilience. The higher the level of vigilance practices, the greater the university's ability to respond effectively to environmental changes. Based on these findings, the null hypothesis (H0:4b) is rejected, and the alternative hypothesis, with all its sub-themes, is accepted.

Table 12. Results of the structural model for testing the impact of Organizational mindfulness dimensions on strategic flexibility

Decision	Coefficient of Determination (R ²)	Significance Level (P)	Critical Ratio (C.R)	Standard Error (S.E)	Unstandardized Effect Coefficient (B)	Standardized Effect Coefficient (SRW)	Effect Path (from independent to dependent)
Reject the null hypothesis	0.86	***	9.057	0.114	1.034	0.925	Deference to expertise → Strategic flexibility
Reject the null hypothesis	0.74	***	8.817	0.091	0.803	0.858	Commitment to resilience → Strategic flexibility
Reject the null hypothesis	0.67	***	8.079	0.096	0.772	0.817	Sensitivity to operations → Strategic flexibility
Reject the null hypothesis	0.35	***	5.632	0.135	0.763	0.594	Preoccupation with failure → Strategic flexibility
Reject the null hypothesis	0.29	***	4.407	0.124	0.545	0.540	Reluctance to simplify interpretations → Strategic flexibility

22. Discussion and Proposed Conclusions

The results of the statistical analysis showed a positive and significant impact of Organizational mindfulness on strategic resilience. This indicates that university leaders who possess a higher capacity for risk awareness, complex analysis, process monitoring, flexible response, and respect for expertise are better equipped to enhance strategic adaptation within the university. This finding confirms that Organizational mindfulness is a crucial input in building strategic resilience, as it helps the university respond to changes rather than merely reacting to them after they occur. The results also showed that Organizational mindfulness influences the three dimensions of strategic resilience, with its impact clearly visible in coordination flexibility, resource flexibility, and planning flexibility. This suggests that an organizationally vigilant university is better able to coordinate efforts among its units, redirect its resources, and adjust its plans according to changing circumstances. This finding is particularly important in the context of public universities, which require a high degree of coordination among colleges, departments, and research and administrative centers. When analyzing the dimensions of Organizational mindfulness, it became clear that respect for expertise was the most influential dimension on strategic resilience, followed by commitment to flexibility, then sensitivity to processes. The impact of preoccupation with failure and hesitation on simplifying procedures was relatively less pronounced. This finding indicates that strategic resilience in the university is not achieved solely through risk awareness or problem analysis but also requires relying on experienced individuals and empowering them to participate in critical decision-making. Accordingly, the research concludes that Organizational mindfulness is a fundamental approach to enhancing strategic resilience at the University of Mosul. The research also offers a theoretical contribution by clarifying the most influential dimensions of strategic resilience, and a practical contribution by guiding university leaders toward the necessity of developing an organizational culture based on expertise, flexible response, continuous process monitoring, and avoiding oversimplification of problems. Limitations and Future Recommendations: This research was limited to the University of Mosul; therefore, the results may not be fully generalizable to all Iraqi universities or other educational institutions. Furthermore, the research relied on the opinions of administrative leaders, making the findings specific to this group's perceptions. Therefore, the study suggests conducting future research at other public and private universities, comparing the results across different educational environments. Further research could also test mediating or modifying variables such as organizational culture, strategic leadership, or organizational learning in the relationship between Organizational mindfulness and strategic flexibility.

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