



The Effect of Organizational Flexibility on Organizational Ambidexterity in Higher Education Institutions in Iraq

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ABSTRACT

The purpose of this research is to examine how different dimensions of organizational flexibility (strategic, structural, and operational) impact organizational ambidexterity within the higher education sector in Iraq. To collect data, a survey instrument is used and a quantitative approach is adopted, with 85 academic staff members participating out of a targeted sample size of 363 lecturers from colleges and institutes within Duhok Polytechnic University (DPU) located in Duhok city, Iraqi Kurdistan Region. Structural Equation Modelling is utilized to determine the direction of the relationship between the variables. Based on the study, it was found that Structure Flexibility has a positive and significant impact on both Exploration and Exploitation of organizational ambidexterity. Additionally, Operational Flexibility also had a significant and positive effect on Exploration and Exploitation. However, the effect of Strategy Flexibility on organizational ambidexterity (Exploration and Exploitation) was not significant and surpassed the significance level of 0.05. In addition to the findings, this study addresses the key policy implications, limitations, and recommendations for future research regarding higher education institutions.

Keywords: Organizational Flexibility, Strategic Flexibility, Structure Flexibility, Organizational Ambidexterity

JEL Classifications: M1, M54, O31

1. INTRODUCTION

Higher education institutions play a crucial role in communities through bringing about scientific advancement in such communities (Al-Yassin and Mohammed, 2012). Buraihi et al. (2016) also indicates that higher education is considered an essential tool contributing to the formation of individual and communities, and to informed-based preparation of the human capital that may have a positive impact, and can contribute in further advancing the communities both socially and economically.

In addition to the knowledge circulation role, universities and higher education entities may act also as marketing hubs for scientific achievements, and may take part in development process. However, most of these universities were not involved in economic development as universities in most countries rely on governmental funding, making the education system vulnerable

during cuts in governmental funding as it affects human resources and qualification level due to lack of appropriate research and training (Nihma and Dakhil, 2019). Moreover, there is a remarkable shortage in the infrastructure and the whole structure of higher education as the curricula in Iraq are disconnected from labour market (Al-Zamili, 2022). In addition, Buraihi et al. (2016) indicated that Iraqi universities shares the same stereotype, and all of them comply to the same rules, regulations and laws, which made universities lose their independence and financial and administrative resilience, and made them unable to overcome challenges.

The current situation has compelled higher education institutions to reconsider their philosophies, strategies, and research policies, which should be geared towards preparing, and qualifying scholars and scientists that can lead scientific innovation, as well as supplying labour market with the required specialized

workforce needs. Therefore, society needs an educational system that can prepare individuals who are aware the changes, possess the skills and competence to deal with them effectively, and have the ability to adapt, learn, and undergo self-improvement (Buraihi et al., 2016). Organizational ambidexterity is considered one of the options or approaches that businesses resort to by working on improving performance within these institutions. There has been growing focus on it recently due to the excessive competition. These organizations must achieve excellence by creating a balance between exploratory and exploitative activities, and by establishing a good reputation for themselves. In other words, they should be adept at optimizing the available resources and exploring new opportunities (Rahma and Nasima, 2019).

Similarly, Albashqali and Dawod (2015) have emphasized that organizational ambidexterity is one of the most important strategies through which business organizations can confront contemporary environmental challenges and stand strong in the face of them, ensuring their survival and continuity in their operations. Furthermore, Ali and Sharafani, (2017) pointed out that contemporary organizations are distinguished by their key factor for success, which lies in possessing organizational ambidexterity and contributing to valuable innovations to both the organization and society, since ambidextrous organizations are prepared and inclined to exploit the available opportunities in their work environment while simultaneously exploring new ones.

Thus, organizational ambidexterity is a prerequisite for an organization's survival and prosperity. Achieving balance between exploration and exploitation is the essence of ambidexterity. Consequently, an organization needs to manage activities that create a balance between these two aspects and reconcile the potential conflicts between them (Taha, 2021). The organization can also enhance its performance by investing the success achieved in the current situation, in addition to exploring new opportunities (Jadqlrab et al., 2021).

Achieving long-term success and sustainability requires an organization to be ambidextrous and capable of exploring new potentials while leveraging the current capabilities. Achieving ambidexterity is not a straightforward endeavour, as it encompasses the realization of diverse objectives, such as innovation, efficiency, exploration, and exploitation (Jadqlrab et al., 2021).

On the other hand, these changes have led to a complex responsive process, requiring organizations, and educational institutions in particular, to manage their organizational flexibility to remain viable in the business environment. Organizational resilience enhances these institutions' ability to improve adaptive manoeuvring, and enable them to improvise and reconfigure their current systems and processes in a timely manner in response to environmental changes (Lim et al., 2011).

Also, organizational flexibility is one of the variables that contribute to strengthen the organization to enhance its strategic readiness to be capable of facing various challenges. This may be achieved through adopting certain management criteria, such as hiring people who have exceptional capabilities, enabling them

to confront external challenges by harnessing their strengths. Additionally, the existence of seamless management principles supporting internal and external positioning of the institution, and the use of a flexible organizational structure, that can be modified in a shorter time frame, allows the organization to mitigate external pressures that can scarcely be anticipated or defined (Dagher, 2019).

While Ji et al. (2015) emphasized the necessity for organizations to develop their operational procedures and update their systems to achieve organizational ambidexterity in terms of resource utilization and the exploration of opportunities through flexible organizational structures that enable the provision of distinguished services. The majority of research focuses on the relationship between exploration and investment in organizational ambidexterity.

Organizational flexibility is paramount for managing professional and organizational differentiation, as it equips employees with the privilege to face any consequences of failure. Organizational flexibility renders the system impartial and frees it from biases and prejudgements. It also places a greater emphasis on accomplishing work in an ideal manner. It highlights the importance of focusing on diversity, reflecting the variety of skills possessed by employees, their mutual relationships, and expectations, to make them feel engaged in the value chain and attaining future objectives (Mukif and Al-Rubaie, 2021).

Additionally, Sultan and Haji (2019) underscored incorporating the element of flexibility within educational institutions and the inclination towards establishing strategic alliances, since this element is relatively low in such institutions, which has had a significant impact on their performance when compared to other components.

While the above discussion briefly discusses common challenges encountered by higher education institutions, there exists a void in the literature concerning empirical studies conducted specifically within the Iraqi higher education context. Strengthening the literature review could involve incorporating existing research or highlighting the absence of empirical investigations. Gaining insights into how organizational flexibility and ambidexterity have been addressed or overlooked within the Iraqi higher education environment is crucial for a more thorough understanding of the subject matter. Initially, the literature review (Al-Zamili, 2022; Buraihi et al., 2016; Nihma and Dakhil, 2019) highlights numerous obstacles confronting higher education institutions in Iraq, including issues like the misalignment of curricula with the labor market and the constraints imposed by uniform regulations on institutional independence. Nevertheless, there exists a potential for a more in-depth exploration of the distinct challenges and dynamics prevalent in Iraqi higher education. There is a valuable opportunity to examine how organizational flexibility and ambidexterity can effectively tackle these challenges, offering a significant contribution to the understanding of this context.

Second, this study stems from the fact that there are no local studies conducted in KRG to study effect of the organizational flexibility

on organizational ambidexterity within the higher education sector. Thus, there was a clear need for empirical studies that link organizational flexibility as considered an independent variable with organizational ambidexterity as a dependent variable by using appropriate analytical statistical methods such as SEM.

Third, while existing research (Aljanazeratta, 2020; Jadqlrab et al., 2021; Palanisamy and Sushil, 2003; Taha, 2021) underscores the significance of ambidexterity and flexibility, the literature review stands to gain from a meticulous examination of the constraints inherent in these studies. Consequently, this current study is a direct response to the recommendations emanating from prior research (Yahya and Suleiman, 2023), which advocated for further investigations specifically exploring the nexus between organizational ambidexterity and flexibility within the realm of higher education institutions, with a particular focus on Iraqi universities.

2. LITERATURE REVIEW

2.1. Organizational Ambidexterity

Organizations aim to achieve success, sustainability, longevity, and profitability. This necessitates their need to surpass their competitors, compelling them to continually work on self-improvement, adaptation, and development. This, on one hand, requires them to excel in exploiting their existing resources and exploring all available opportunities. On the other hand, it enhances their proficiency in searching for new resources and exploring novel prospects. In essence, a proficient organization possesses the capability to uncover new potentials while harnessing its current ones (Rahma and Nasima, 2019). Numerous scholars and experts have delved into the topic of organizational ambidexterity. Palm and Lilja (2016) defined it as the capacity to manage exploration and exploitation within the same organization simultaneously. Organizational ambidexterity also refers to the organization's ability to strike a balance between exploration and exploitation activities regarding available opportunities and resources, by analyzing internal and external environmental variables and adapting to them (Muhammad, 2021).

Furthermore, organizational ambidexterity is reflected by an organization's capacity to concurrently manage exploratory and exploitative activities in a manner that optimizes its performance (Rashid and Lafta, 2018). Organizational ambidexterity is defined as the capability of an organization to rely on an array of methods and approaches in an endeavor to identify available opportunities and invest in them in a manner that contributes to enhancing its value. It also entails the avoidance of various types of environmental threats and deviations, in addition to the continual pursuit of advantages, opportunities, and investments that the future may hold, while utilizing them in a manner that helps in achieving its strategic and organizational objectives (Al-obeidi, 2020).

It is referred to as the capacity of organizations to allocate the essential resources necessary for achieving success in both exploitative and exploratory activities, thereby ensuring the preservation of profitability and sustainability in the long term

within a competitive business environment (Ali and Sharafani, 2017).

Organizational ambidexterity in educational institutions is defined as the innovative capacity of school leaders to leverage the available opportunities within the school, encompassing human resources such as teachers, students, and staff, as well as material resources including financial assets and educational technologies, to fulfill the objectives of the educational system. This involves exploring the surrounding environment and identifying elements that can benefit the school's progress, such as decisions from the Ministry of Education and internal policies, fostering collaboration with other schools, and actively engaging in partnerships between the school and the local community (Aljanazeratta, 2020).

Organizational ambidexterity is operationally defined as the ability of secondary school principals in the southern provinces of Palestine to meet current requirements, adapt to environmental changes, and achieve optimal utilization of available resources and opportunities, while simultaneously exploring new prospects. This operational definition was assessed by gauging the respondents' responses to the Organizational Ambidexterity Questionnaire, which was specifically developed by the researcher for this purpose (Abu Hatab, 2021).

In regard to the significance of organizational ambidexterity, it fundamentally lies in its capacity to substantially enhance the competitive positioning of the organization, rendering it superior to those entities operating within the same domain. This superiority is realized through the adept exploitation of the inherent potentials, talents, experiences, and competencies vested in the working individuals, followed by their judicious investment, thereby fostering and reinforcing a collective spirit and collaborative effort within the organization (Al-obeidi, 2020).

Aljanazeratta (2020) points out that the importance of organizational ambidexterity in educational institutions lies in the diversity of ideas, shared decision-making, and innovation in harnessing the current reality. It involves exploration of the institution's future prospects based on its available resources and utilizing them to generate novel ideas. In addition, organizational ambidexterity helps educational institutions leaders to identify opportunities that ensure investment and those that are conducive to future exploration. It enables educational leaders to allocate certain opportunities strategically to ensure the sustained excellence of the educational institution in the future, preserving some of its capabilities for emergency situations, rather than exhausting all opportunities at the outset. Organizational ambidexterity also helps leaders in educational institutions to prioritize opportunities (Aljanazeratta, 2020).

Therefore, an ambidextrous organization is concerned with identifying its available resources and optimizing their utilization through implementing internal environmental surveys. This involves recognizing sources of strength and weaknesses, and conducting external environmental surveys to identify variable conditions that may impact the organization to develop a strategy for mitigating their influence, thereby enabling the organization to

perform in a balanced manner without one aspect overpowering the other (Abu Hatab, 2021).

Regarding the dimensions of organizational ambidexterity, many studies such as those by Al-obeidi (2020), Ali and Sharafani (2017), Desoky (2021), Jadqlrab et al. (2021), Taha (2021), and Hassan et al. (2021) have pointed out that there are two fundamental dimensions, namely exploitation and exploration. Ali and Sharafani (2017) have stressed that exploitation and exploration represent two distinct or contrasting primary activities within an organization. Organizations allocate their resources and time to these two activities. Organizations aspiring to achieve organizational ambidexterity are supposed to have both exploration and exploitation, which have perpendicular relationship rather than continuous ends (Ali and Sharafani, 2017).

Aljanazeratta (2020) proposes that optimal investment of opportunities entails the organization's ability to enhance its activities to create value in the short term and seek to expand its knowledge and skills. This includes reusing existing procedures without additional learning and progressively harnessing what organizations really possess. It also involves investing all opportunities existing in the organizational environment, which represent possibilities for gaining a competitive advantage. Al-Ashry (2021), claims that exploitation involves the organization's capacity to utilize current capabilities and satisfy the needs of current customers and markets by enhancing existing products and processes. Investment is associated with various terms such as selection, production efficiency, application, and implementation, as well as knowledge acquisition through scientific research, experimental enhancement, and innovation. Investment also refers to a set of activities undertaken by universities to develop, disseminate, and improve their services to gain competitive advantage, usually associated with the functions of the university (teaching, scientific research, and community service) (Desoky, 2021).

However, post-exploration refers to the search for new potentials, fresh opportunities, new customers, and entry into new markets by bringing about fundamental changes that through introducing new products and processes (Al-Ashry, 2021; Jadqlrab et al., 2021). Organizations usually work in swiftly changing competitive environments, surrounded by many opportunities created by the external environment. Large and successful organizations do not wait for opportunities; instead, they vigorously seek them out and allocate substantial resources to create and leverage these opportunities to maximize benefits (Abu Hatab, 2021).

Besides, Hamed et al. (2021) point out that exploration involves innovation, experimentation, radical change, and creating new products, processes, and services. When it comes to education, Desoky (2021) argues that exploration refers to a set of organizational tasks that promote finding new solutions to problems and innovative ways for carrying out university work. This may include resource mobilization and expanding educational services, in addition to innovative teaching methods, scientific research, and community service. Exploration is associated with terms such as research, experimentation, risk-taking, and

adaptability. Thus, exploration may be defined as looking for new knowledge and readiness to handle environmental changes (Aljanazeratta, 2020).

Based on what has been mentioned above, the researcher concurs that organizational ambidexterity is realized when an organization execute exploitation and exploration activities simultaneously (Hassan et al., 2021). Exploitation and exploration are complementary tasks, as exploitation leads to short-term or instant results, while exploration may lead to long-term or future outcomes. Regarding educational organizations, the chief challenge lies in realizing a balance between exploitation and exploration, namely, a balance between leveraging available opportunities and actively seeking new ones to attain the level of ambidextrous organizations (Abu Hatab, 2021).

2.2. Organizational Flexibility

Today's business environments are often fast-moving, turbulent, and unpredictable because of ever-changing trends in technology, global competition, and electronic commerce (Palanisamy and Sushil, 2003). In addition Phillips and Wright, (2009) showed that in today's fast-moving and unpredictable business environment, characterized by constantly changing e-business trends, the importance of flexibility cannot be overstated (Phillips and Wright, 2009). In the same context Lim et al. (2011) showed that during the recent period, several companies shut down due to the challenging business environment. However, some managed to endure and adapt to the dynamic conditions. These surviving firms are thought to have acquired a high level of flexibility in handling industry changes. Therefore, examining their organizational characteristics and management strategies could provide valuable insights to other professionals on the critical factors that enable organizational adaptability (Lim et al., 2011). Flexible organizations are able to achieve strategic business performance more efficiently and with greater enthusiasm than non-flexible ones (Yousaf and Majid, 2018).

A review of the literature shows that organizational flexibility involves some form of control of the environment, responsiveness, reversibility, and continuous learning, as well as having adequate resources and capabilities. Organizational flexibility has been defined as the ability of an organization to effectively utilize its resources and capabilities to respond or adapt, in a timely and reversible manner, to environmental changes through a continuous learning process (Lim et al., 2011). In addition, organisational flexibility is the capability where an organisation integrates, constructs and resets its internal resources and external competitive advantages to adapt to the rapid change of external environment (Wang et al., 2013).

It also means the adaptability, resilience, intelligence, and learning that an organization possesses to adapt quickly to environmental changes and thereby gain an advantage over their competitors (Palanisamy and Sushil, 2003).

Organizational ambidexterity may be defined as the organization's capacity to experience continuous change in its internal and external systems, enabling it to adapt to numerous evolving

conditions continuously. This feature enhances its efficiency and its capacity for improvement in its operations (Al-Nouri, 2019).

2.3. Dimensions of Organizational Flexibility

Many studies have dealt with the concept of organizational flexibility, and some of them focused on various dimensions. Based on an extensive review of existing literature, previous studies have pinpointed three key dimensions, as follows: (Alnohas and Mustafa, 2020; AlMajaida, 2020; Shousha and Abdel-Fattah, 2021):

2.3.1. Structural flexibility

The organizational structure that has a limited number of hierarchical levels facilitates communication between different management levels and gives the staff autonomy by delegating authority. (Al-Nouri, 2019) assumes that organizational flexibility in structure is reflected by organization's ability to improve and endure by adapting its human resources to overcome various changes taking place in the work environment.

Flexible structure means a structure that contains a few organizational levels in order to facilitate the communication process between the top-middle and lower departments while granting freedom of action to the employees and delegating them the powers, that enable an organization to rapidly respond to environmental changes (Bokara, 2017). In addition Flexible organizational structures and decision-making processes are essential for solving new tasks and adapting to changing conditions. They are particularly important for innovation and unforeseeable situations (Stachova and Stacho, 2017).

It can be concluded that structural flexibility refers to an organization's capacity to reconfigure its own structure, rearranging tasks and functions, diversifying staff roles, and enabling them to undertake multiple tasks. It also means distributing work tasks according to emergent changes, and the efficient simplification of policies to efficiently overcome unpredicted changes (Ayyash, 2020).

2.3.2. Strategic flexibility

Strategic flexibility is organization's capacity to adapt its current strategies, develop appropriate alternatives to take advantage of opportunities, and mitigate risks. Accordingly, it signifies the organization's ability to adjust to internal and external environmental changes (Al-Nouri, 2019). Similarly, Ayyash (2020) indicates that strategic flexibility refers to an organization's adaptability towards its strategies, the extent to which room exists for change, and developing of fitting alternatives to invest opportunities and mitigate risks, thereby enabling its adaptation to internal and external environmental changes. Additionally, AL-Slanty et al. (2018) points out that strategic flexibility arises from capabilities that offer a diverse range of strategic options, that can be swiftly implemented. These options may include changing the nature of an activity related to the organization's objectives or environment, encompassing strategies for adapting to rapidly changing market conditions.

Amir (2019) concludes that strategic flexibility is represents an organization's ability to identify external environmental changes

and respond rapidly through the mobilization of resources towards new directions in order to trigger its strategic choices. It requires a continued sense of caution, prudence, and the adoption of proper implementation measures. In addition, companies that possess greater strategic flexibility are better able to respond to changing market conditions quickly and effectively. They are also able to identify customer needs more accurately and promptly than less agile companies (Ghorban-Bakhsh and Gholipour-Kanani, 2018). Thus, strategic flexibility, which reflects the capabilities to identify major changes in the environment, quickly commit resources to new courses of action in response to change, and act promptly when it is time to halt or reverse such resource commitments (Wang et al., 2013).

2.3.3. Operational flexibility

Operational flexibility offers a rapid response to changes, to achieve utmost efficiency and reduce risks in volatile markets. It denotes specific devices, machinery, equipment, and software utilized to transform inputs into outputs (AL-Slanty et al., 2018). Operational flexibility is linked to organizing employees' daily tasks and the extent to which they can be reconfigured to adapt to emerging developments in work place (Ayyash, 2020). Operational flexibility prioritize providing innovative and non-traditional solutions that may facilitate work procedures, reduce steps and required documents for any process, and abandon routine work behaviors that cause time wasting and procedural complexity (Amir, 2019).

Thus, this study supports the idea that operational flexibility is a crucial characteristic that firms seek, as it enables them to adapt rapidly and effectively to changing circumstances (Lawrence-Chuku and Chima Onuoha, 2022).

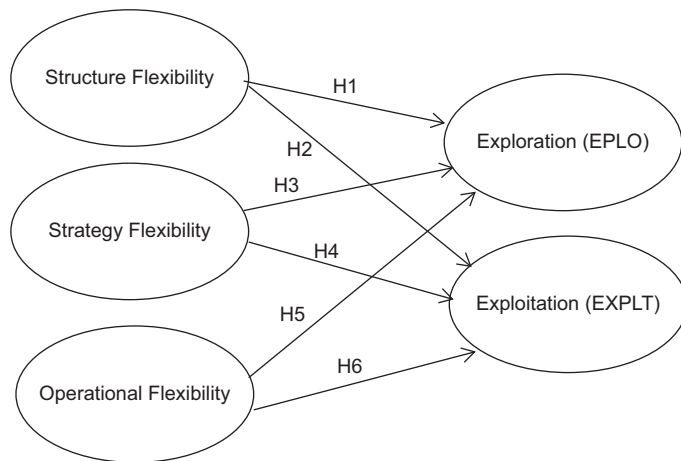
3. THEORETICAL MODEL AND HYPOTHESIS DEVELOPMENT

3.1. Theoretical Model

The theoretical model proposed in this study is illustrated in Figure 1 that explains the relationship between Organizational flexibility and Organizational ambidexterity. Figure 1 also presents the constructs and the hypothesised relationships.

3.2. Organizational Flexibility and Organizational Ambidexterity

Previous studies have shown that organizational ambidexterity arises a balance is brough about between explorative and exploitive activities. This requires implementing various mechanisms within contexts like organizational learning, innovation, adaptation, and organizational leadership, while considering the available resources of the organization and taking into account environmental developments and changes (Desoky, 2021). Organizational ambidexterity may be a prerequisite for the survival and prosperity of an organization, and ambidexterity may be achieved when there is a balance between exploration and exploitation. Consequently, an organization need to manage activities that creates a balance between these two aspects and overcome conflicts between them (Taha, 2021).

Figure 1: Proposed theoretical model

Other studies highlighted that the long-term success of organizations relies primarily on their ability to handle environmental and technological changes. This may be achieved through balancing efficiency and flexibility as contrasting management strategies. The key challenge encountering organizations is the need to leverage current skills and capabilities while also providing enough space for exploration to avoid becoming irrelevant in markets and technological shifts (Al-obeidi, 2020).

3.3. Hypothesis Development

Organizations that allow adapting firms to quickly environmental changes in dynamic and complex environment are regarded as flexible organizations (Koçyiğit and Akkaya, 2020). Flexibility is the ability of companies to respond to a variety of customer requirements that exist within parameters (Phillips and Wright, 2009).

In addition, Flexibility means more options, quicker change mechanisms, and enhanced freedom of choice for an organization (Palanisamy and Sushil, 2003).

It also reflects the organization's current state and its ability to deal with and respond to critical situations, in addition to organization's capacity to cope with recent advancements, including those related to information technology, communications, and e-business. It explores how to harness these opportunities efficiently and effectively to ensure sustainability, continuity, and adaptability to the ever-changing business environment (Hamokhalil and Alshikh, 2019).

Others contend that organizational flexibility plays a substantial role in supporting an organization's success and its human resources. It offers them the essential foundations, capabilities, and knowledge to challenge highly volatile external and internal environmental conditions, thus augmenting their performance. It offers the organization a strategic advantage over competitors, enabling it to deal with circumstances smoothly, efficiently, and effectively. Organizations are offered a unique ability to address uncertainty and change in the business environment. It enables the organization to develop a strategic advantage paving the way to proactive and offensive strategies, not just adaptive ones (Ayyash, 2020). On the other hand, some studies propose that

organizational flexibility reflects an organization's ability to quickly and effectively adapt and respond to the dynamic business environment within its existing capabilities, including operational flexibility, human resource flexibility, strategic flexibility, and organizational structural flexibility (Al-Nouri, 2019).

Regarding the link between the dimensions of organizational flexibility (organizational structural flexibility, strategic flexibility, and operational flexibility) and organizational ambidexterity, Rahma and Nasima (2019) have stated that a flexible organizational structure can be seen as a crucial element of organizations' responses to change. Thus, a flexible structure can assist adept organizations to manage inconsistent and multiple demands because it contributes to forming exploratory teams spatially and exploitative units in different locations. This leads to a sense of freedom in work activities, thus creating structural flexibility that helps in adapting to inconsistent environments (Rahma and Nasima, 2019).

Flexible structure means a structure that contains a few organizational levels in order to facilitate the communication process between the top-middle and lower departments while granting freedom of action to the employees and delegating them the powers, that enable an organization to rapidly respond to environmental changes (Al-Nouri, 2019; Pokara, 2017).

Thus, structural flexibility refers to an organization's ability to reconfigure itself structurally, rearrange tasks and functions, diversify employees' roles, and enhance their capacity to carry out multiple tasks. It also means distributing assignments in alignment with unpredicted changes and the streamlined adaptation of policies to efficiently handle unpredicted alterations (Ayyash, 2020).

The current study proposes that Structure *Flexibility* play a positive role in enhancing organizational ambidexterity (Exploration (EPLO) and Exploitation (EXPLT)). Thus, the following hypotheses are formulated:

- H_1 : Structure flexibility significantly affects (exploration (EPLO)).
 H_2 : Structure flexibility affects exploitation (EXPLT).

When it comes to the relationship between strategic flexibility and organizational ambidexterity, specifically the balance between exploring new opportunities (EPLO) and exploiting existing ones (EXPLT), there are important factors to consider. Previous studies have demonstrated that the connection between strategic flexibility and firm performance is affected by changing conditions, such as the level of competition and the combination of resources utilized, which can either enhance or weaken this relationship (Guo and Cao, 2014). In the same context Lawrence-Chuku and Chima Onuoha, (2022), indicates that strategic flexibility and cost efficiency have a favorable relationship and strategic flexibility will have a large influence on cost efficiency.

Meanwhile, Al-Nouri (2019) stressed that strategic flexibility reflects an organization's capability to adapt its current strategies, develop proper alternatives to take advantage of opportunities,

and mitigate risks. In addition strategic flexibility is regarded as a vital for an organization to develop and adjust strategies promptly in response to unforeseen challenges and shifts in the business landscape. It helps organizations navigate unpredictable environments and manage risks by facilitating timely modifications to its strategic approaches (AlHalaseh and Ayoub, 2021).

Thus, Strategic flexibility is the ability to recognize significant changes in the environment, rapidly allocate resources to new strategies in response to change, and take prompt action to stop or reverse resource commitments (Wang et al., 2013). Thus, the following hypotheses are formulated:

H_3 : *Strategic flexibility significantly affects exploration (EPLO).*
 H_4 : *Strategic flexibility affects exploitation (EXPLT).*

Previous studies have explored the connection between operational flexibility and organizational ambidexterity, which involves both exploring (EPLO) and exploiting (EXPLT) opportunities. Previous studies have found that operational flexibility is highly valued by firms as it allows them to swiftly and effectively adapt to changes in their environment (Lawrence-Chuku and Chima Onuoha, 2022). According to Amir (2019), operational flexibility means offering creative and non-traditional ideas to simplify work processes. This involves minimizing the number of steps and paperwork needed to complete tasks and avoiding repetitive behaviours that waste time and make procedures more complicated. In addition, operational flexibility is crucial for an organization to respond quickly to changes and achieve maximum efficiency, while also reducing risks in a volatile market environment (AL-Slantly et al., 2018).

Thus, companies with operational flexibility are able to adapt and adjust their current systems and processes quickly in response to short-term and fluctuating environmental changes (Lim et al., 2011). Thus, the following hypotheses are formulated:

H_5 : *Operational flexibility significantly affects exploration (EPLO).*
 H_6 : *Operational flexibility affects exploitation (EXPLT).*

4. METHODOLOGY

A quantitative approach was adopted in this study in which a cross sectional survey was used. This design of the research was oriented towards observing the natural setting of the phenomenon under investigation and testing a number of hypotheses. Random sampling was employed due to explanatory nature of this study and the organizational level. This study uses partial least square (PLS) as a statistical analysis technique to test the hypothesis with structural equation model (SEM).

4.1. Measurement and Instrumentation

The questionnaire used in this study was adapted from both existing measurements and information from the literature. The questions have been designed carefully in terms of sequence, wording, and appearance. In this study, the measurement and instrumentation process involved adapting an existing questionnaire based on information gathered from the literature

review. Careful attention was given to issues such as question sequence, wording, and overall appearance. As the study was conducted in the Kurdistan Region of Iraq, the questionnaire was initially designed in English, then translated into Kurdish, and finally translated back into English to ensure accuracy and provide participants with a choice of language. All items in the questionnaire were measured on a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” The items were adapted from the existing literature. The study includes two main variables, namely: organizational flexibility as the independent variable, organizational ambidexterity dependent variable. The variable measurements have been selected from the existing scales in the literature. Some of the items presented in this study are taken from the original source and changes are done according to the purpose of this study. The tool used for collecting data in this study is presented in Appendix A.

The items used to measure organizational flexibility dimensions (strategic, structure, and operational flexibility) were adapted from the previous literature (Lim et al., 2011), (Amir, 2019) (Al-Nouri, 2019) (AlMajaida, 2020). It was measured through 17 items covering its several sub-dimensions available in literature. There are (5) items that measure strategic flexibility, (6) items that measure structure flexibility and other (6) items that measure operational flexibility.

For measuring the dependent variable, this study operationalized the concept of organizational ambidexterity, which refers to the ability of the organization to balance exploitation and exploration and resolve the resulting tensions, to discover the available opportunities presented to it and work to invest in a way that contributes to enhancing its value while avoiding various types of environmental threats and deviations. Additionally, the organization continues to search for new advantages, opportunities, and investments that the future holds, utilizing them in a way that aligns with its strategies and organizational goals. It was measured through 11 items covering its two sub-dimensions available in literature. There are (5) items that measure exploration and (6) item that measure exploitation. All the items have been adapted from (Boukamel and Emery, 2017; Jansen et al., 2009; Rashid and Lafta, 2018; Sweiss and Abideen, 2019).

4.2. Statistical Analysis Technique

The data analysis in this study utilized the structural equation modelling (SEM) method. SEM is a comprehensive term covering a group of multivariate statistical methods and is regarded as a second-generation data analysis approach. Its primary functions in data analysis are twofold. Firstly, SEM integrates path and confirmatory factor analysis, which exclusively deals with measured variables. Secondly, SEM facilitates the examination of causal relationships between two or more variables (Hair et al., 2010; Kline, 2011). Moreover, SEM enables the simultaneous analysis of multiple dependent variables, which is a capability not feasible in traditional regression analysis methods (Chin et al., 2003; Gefen et al., 2000 and Hair et al., 2010). Additionally, the SEM method provides the advantage of conceptualizing a broad spectrum of relationships between variables, accommodating diverse types of associations and dependencies in the analysis.

This flexibility allows for a more comprehensive examination of the interrelationships among the study's variables (Smith and Langfield-smith, 2004).

The study utilizes the partial least squares (PLS) method to test hypotheses through the structural equation model (SEM). The main reason for choosing PLS as a structural equation modelling technique is its appropriateness for analysing both reflective and formative constructs, making it a suitable approach for the research objectives of this study (Chin et al., 2003). Furthermore, PLS possesses the capability to analyse both the structural model, which examines relationships between latent variables, and the outer model, which analyzes latent variables in the study. This comprehensive approach permits a thorough investigation of the relationships between the variables under study, enhancing the understanding of the complex interplay among them. Moreover, PLS path modelling is applicable for testing highly intricate models containing numerous latent and observed variables. Its suitability for prediction-oriented research further enhances its utility in examining complex relationships and predicting outcomes in the study (Hair et al., 2012).

5. DATA ANALYSIS

5.1. Sample Demographic Profile

Out of the 105 collected questionnaires, 85 were considered useful for analysis. The respondents were predominantly male, accounting for 83.5% of the total, while only 16.5% were female. Regarding age distribution, 4.7% were below 30 years old, 56.5% were between 30 and 39 years old, 30.6% were between 40 and 49 years old, 5.9% were between 50 and 59 years old, and only 2.4% were above 60 years old.

In terms of marital status, 17.6% of respondents were single, while the majority, 82.4%, were married. Regarding working experience, 2.4% had <5 years of experience, 22.4% had 5-10 years of experience, 60.0% had 11-15 years of experience, and 15.2% had more than 15 years of experience.

As for education level, 10.6% of respondents had a high diploma, 67.1% held a master's degree (MSc), and 22.4% had a PhD degree. These demographics provide insights into the characteristics of the study's sample population.

5.2. Measuring Reliability and Validity

In PLS path modelling, confirmatory factor analysis (CFA) was applied to test the reliability and validity of the measures adapted from the literature. The findings from the CFA are presented in Table 1.

In this study, the reliability and validity of all constructs were evaluated specifically, the convergent validity of the measures were examined. Convergent validity is a subtype of construct validity, indicating that specific items are expected to measure the same concept consistently. To assess convergent validity, factor loadings, composite reliability (CR), and average variance extracted (AVE) were employed, as suggested by (Hair et al., 2010). After eliminating (1) item (namely, STRUR-F5) due to

insufficient factor loadings below 0.5, the factor loadings of the remaining items fall within the range of 0.570 to 0.865, exceeding the suggested cut-off of 0.5 according to (Costello and Osborne, 2005). The average variance extracted (AVE), which indicates the amount of variance captured by a construct relative to the measurement error, exceeded the recommended cut-off value of 0.5 as proposed by (Hair et al., 2010 and Nunnally and Bernstein, 1994), The composite reliability (CR) values ranged from 0.513 to 0.649. CR is considered a less biased estimate of reliability compared to Cronbach's alpha and reflects the extent to which the items representing the latent construct are consistent. The composite reliability (CR) values for all constructs in this study ranged from 0.862 to 0.906, which surpass the recommended value of 0.6 according to Hair et al. (2010). Next, Cronbach's alpha was utilized to assess the reliability of the measures. The Cronbach's alpha values ranged from 0.799 to 0.874, exceeding the recommended threshold of 0.7 suggested by (Nunnally and Bernstein, 1994) as shown in (Table 1).

In this study, two approaches were employed to assess the discriminant validity of the constructs. Firstly, the correlations between the constructs were examined, and it was found that all correlations were below the recommended threshold value of 0.85, as suggested by Kline (2011). Secondly, the criterion proposed by Fornell and Larcker (1981) was applied, comparing each construct's square-rooted AVE to its correlations with the other constructs. As indicated in Table 2, both analyses confirmed the discriminant validity of all constructs. Overall, the measurement model demonstrated adequate reliability, convergent validity, and discriminant validity.

5.3. Structural Model

With the support results in the above measurement model, the structural model was applied subsequently. The predictive accuracy of the model was evaluated in terms of the portion of variance explained (R²). The findings showed that the model is capable of explaining 53.5% of the variance in Exploration (EPL0). Besides estimating the magnitude of R², researchers have recently included predictive relevance developed by (Geisser, 1975) and (Stone, 1974) as additional model fit assessment. This technique represents the model adequacy to predict the manifest indicators of each latent construct. Stone-Geisser Q² (cross-validated redundancy) was computed to examine the predictive relevance using a blindfolding procedure in PLS. Following the guidelines suggested by (Chin, 2010), the values of Q² for Exploration (EPL0) was 0.484, far >0 which refers to predictive relevance of the model. In sum, the model exhibits acceptable fit and high predictive relevance. Nonparametric bootstrapping was applied with 1000 replications to test structural model (Wetzels et al., 2009). The structural model resulting from the PLS analysis is summarized in Figure 2.

With the support results in the above measurement model, the structural model was applied subsequently. The predictive accuracy of the model was evaluated in terms of the portion of variance explained (R²). The findings showed that the model is capable of explaining 57.7% of the variance in Exploitation

Table 1: Cronbach's alpha and convergent validity value for over all measurement model

Construct	Item	Convergent validity			Internal reliability Cronbach Alpha
		Factor loading	Average variance extracted (AVE) ^a	Composite reliability (CR) ^b	
Structure flexibility (STRUR-F)	STRUR-F1	0.727	0.626	0.869	0.799
	STRUR-F2	0.865			
	STRUR-F3	0.775			
	STRUR-F4	0.791			
	STRUR-F5	0.485 ^c			
Strategy flexibility (STRAT-F)	STRAT-F1	0.570	0.587	0.894	0.857
	STRAT-F2	0.711			
	STRAT-F3	0.829			
	STRAT-F4	0.822			
	STRAT-F5	0.842			
	STRAT-F6	0.786			
Operational flexibility (OPR-F)	OPR-F1	0.694	0.513	0.863	0.807
	OPR-F2	0.726			
	OPR-F3	0.609			
	OPR-F4	0.796			
	OPR-F5	0.713			
	OPR-F6	0.746			
Exploration (EPLO)	EPLOR1	0.833	0.649	0.903	0.865
	EPLOR2	0.779			
	EPLOR3	0.804			
	EPLOR4	0.821			
	EPLOR5	0.792			
Exploitation (EXPLT)	EXPLT1	0.762	0.617	0.906	0.875
	EXPLT2	0.770			
	EXPLT3	0.834			
	EXPLT4	0.839			
	EXPLT5	0.701			
	EXPLT6	0.701			

^a: $AVE = \sum \lambda_i^2 / n$ λ = Standardized Factor Loading n =Number of item in a model. ^b: $CR = (\sum \lambda_i^2) / [(\sum \lambda_i^2) + 2 + (\sum (1 - \lambda_i^2))] / 2$ λ_i =Factor loading of every item. ^cdenotes for discarded item due to insufficient factor loading that was below cut-off 0.6

Table 2: Discriminant validity of constructs

Construct	STRUR-F	STRAT-F	OPR-F	EPLO	EXPLT
Structure flexibility (STRUR-F)	0.791				
Strategy flexibility (STRAT-F)	0.679	0.766			
Operational flexibility (OPR-F)	0.583	0.721	0.717		
Exploration (EPLO)	0.630	0.654	0.635	0.806	
Exploitation (EXPLT)	0.686	0.654	0.652	0.7765	0.786

Diagonals represent the AVE, while the other matrix entries reflect the square correlations

(EXPLT). Besides estimating the magnitude of R², researchers have recently included predictive relevance developed by (Geisser, 1975) and (Stone, 1974) as additional model fit assessment. This technique represents the model adequacy to predict the manifest indicators of each latent construct. Stone-Geisser Q² (cross-validated redundancy) was computed to examine the predictive relevance using a blindfolding procedure in PLS. Following the guidelines suggested by (Chin, 2010), the values of Q² for Exploitation (EXPLT) was 0.515, far >0 which refers to predictive relevance of the model. In sum, the model exhibits acceptable fit and high predictive relevance. Nonparametric bootstrapping was applied with 1000 replications to test structural model (Wetzels et al., 2009). The structural model resulting from the PLS analysis is summarized in Figure 2.

As shown in Figure 2, all of the hypotheses were supported. The details of examining hypotheses are presented in (Table 3).

(Table 3) presents the direct effects of the Structure Flexibility on organizational ambidexterity (Exploration [EPLO] and Exploitation [EXPLT]). The direct effects were found to be 0.314 and 0.389, respectively. This means that the direct effect of Structure Flexibility on organizational ambidexterity (Exploration [EPLO] and Exploitation [EXPLT]), was positive and statistically significant, with P-values reaching significance at the 0.05 level. Therefore, the hypotheses (H₁ and H₂) received support.

On the other hand, the direct effects of Strategy Flexibility (STRAT-F) on organizational ambidexterity (Exploration [EPLO] and Exploitation [EXPLT]) were insufficient and not statistically significant, with P-values exceeding the 0.05 level of significance. Consequently, the hypotheses (H₃ and H₄) related to these direct effects were not supported by the data as shows in Table 3.

(Table 3) also provides insights into the direct effects of Operational Flexibility (OPR-F), on organizational ambidexterity

Figure 2: Partial least square analysis of the structural model

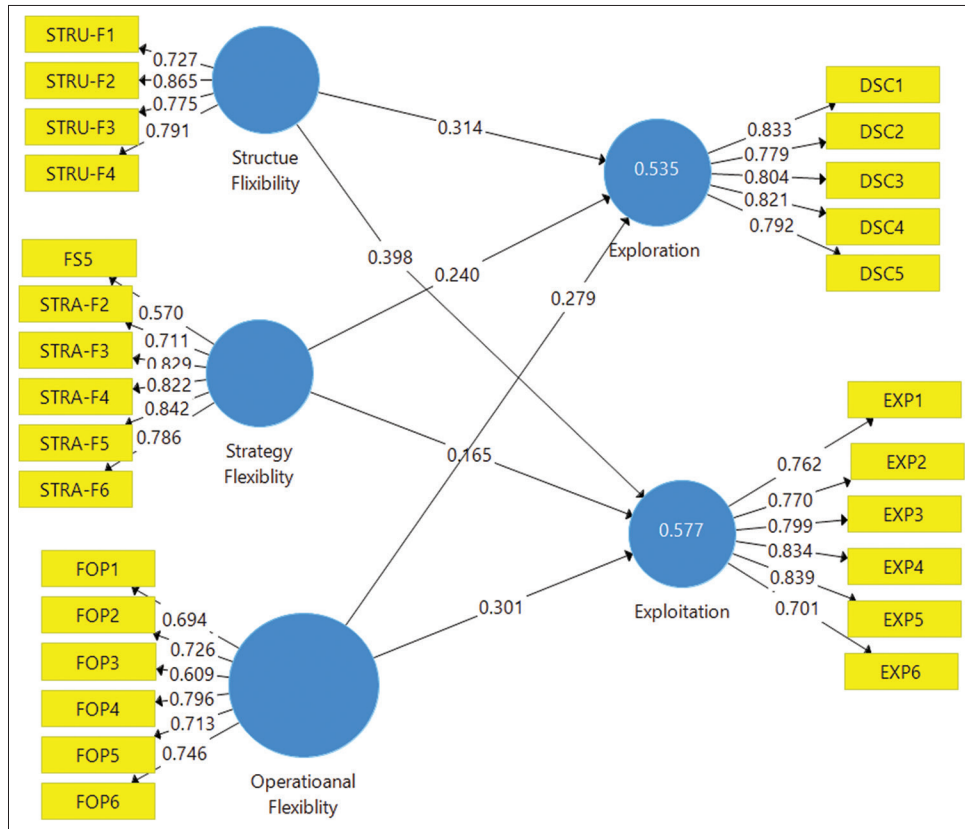


Table 3: Examining results of hypotheses

Path shape	Path coefficient	Standard error	T-value	P-value	Hypothesis result
STRUC-F → Exploration	0.314	0.1053	2.9831	0.0029	H1) supported
STRUC-F → Exploitation	0.389	0.0867	4.5953	0.0000	H2) supported
STRAT-F → Exploration	0.240	0.1385	1.7345	0.0831	H3) unsupported
STRAT-F → Exploitation	0.165	0.1411	1.1714	0.2417	H4) unsupported
OPR-F → Exploration	0.279	0.1403	1.9874	0.0472	H5) supported
OPR-F → Exploitation	0.301	0.1293	2.3281	0.0201	H6) supported

(Exploration [EPLO] and Exploitation [EXPLT]). The direct effects were determined to be 0.279 and 0.301, respectively. The direct effects of Operational Flexibility (OPR-F) on both Exploration (EPLO) and Exploitation (EXPLT) were positive and statistically significant, with P-values reaching significance at the 0.05 level. As a result, the hypotheses (H₅ and H₆) related to these direct effects were supported by the data.

6. CONCLUSIONS AND POLICY IMPLICATIONS

This study is conducted to investigate the relationship between organizational flexibility dimensions (strategic, structure, and operational flexibility) and organizational ambidexterity (Exploration [EPLO] and Exploitation [EXPLT]) in higher education institute typically in Duhok Polytechnic University. More specifically; it aimed to explain the effect of organizational flexibility dimensions (strategic, structure, and operational flexibility) on organizational ambidexterity. Structural Equation Modelling was used to examine the relationship between the

variables. The sample size includes (85) academics staff in the university, out of Academics staff population of (363) working in Duhok Polytechnic University. Based on (85) usable questionnaire, the results of this study showed that the effect of Structure Flexibility on organizational ambidexterity (Exploration [EPLO] and Exploitation [EXPLT]), was positive and statistically significant. The results also showed that Operational Flexibility (OPR-F) a significant and a positive effect on both Exploration (EPLO) and Exploitation (EXPLT), with P-values reaching significance at the 0.05 level. While the effect of Strategy Flexibility (STRAT-F) on organizational ambidexterity (Exploration [EPLO] and Exploitation [EXPLT]) were insufficient and not statistically significant, with P-values exceeding the 0.05 level of significance.

This study has several implications for researchers, the management of higher education institutes, and policymakers. The findings of this study enrich the existing literature in field of organizational flexibility and organizational ambidexterity through addressing the issues that had been suggested in

previous studies. Those studies suggested to conducting more research to advance organizational ambidexterity understanding and to analyse deeply the effect of organizational flexibility's dimensions on organizational ambidexterity. In addition, there are clear shortcomings in the structure and organization of higher education in Iraq, as well as in linking its educational programs to the labour market (Al-Zamili, 2022), and they suffer from their reliance on a single stereotype through a centralized system of regulations, procedures, and practices, and this led to the loss of each university's individual structure, independence, legal personality, administrative and financial flexibility, and ability to effectively address challenges and crises (Buraihi et al., 2016). So, understanding the relationship between organizational flexibility's dimensions and organizational ambidexterity are matters for of high education institutes. This study has confirmed that the organizational flexibility's dimensions have a significant effect on organizational ambidexterity that advancing the understanding of the relative impact of organizational flexibility's dimensions on organizational ambidexterity. Even though there has been a literature review regarding the importance of organizational ambidexterity (Abdel Hafez, 2020; Jadqlrab et al., 2021; Rahma and Nasima, 2019; Shousha and Abdel-Fattah, 2021) there is still room to investigate the factors that motivate organizations to implement this approach. Thus, this study added to the existing literature by examining the influence of various dimensions of organizational flexibility, namely strategic, structural, and operational, on organizational ambidexterity. Furthermore, the study's findings confirmed those of a previous study (Al-obeidi, 2020; Stachova and Stacho, 2017), which showed that exploration processes - the pursuit of new opportunities - require the improvement and development of organizational structures and systems. These improvements are often linked to promoting innovative, creative, and entrepreneurial behaviour within the organization. This is in line with the organization's overall drive toward creativity and innovation, which ultimately leads to the creation of new products and services. In addition, previous studies (Al-Jobori and Al-Baghdadi, 2015) have confirmed that organizational ambidexterity impacts organizational flexibility. However, this study hypothesizes that the effect is reversed, and that organizational flexibility affects organizational ambidexterity. This new finding will contribute to existing studies in this field of knowledge.

This study has implications that can help decision-makers at Duhok Polytechnic University achieve success, survival, permanence, and profitability, making the university superior to its competitors. They need to possess the skills to search for new resources and explore new opportunities. In other words, the University must have the ability to discover new possibilities and take advantage of existing capabilities. Moreover, this study stresses that flexible organizations are more enthusiastic and quicker while attaining strategic business performance as compared to non-flexible organizations. Thus, if Duhok Polytechnic University aims to develop their entities (colleges and institutes) and make them to contribute in economic growth, it should develop policies and regulations that enable them to be more flexible in facing different challenges facing them. The findings of this study confirmed that the organizational flexibility's dimensions are regarded as an

essential factor for exploring and exploiting the environmental opportunities.

This study has several limitations. First, the results of this study are only applied to higher education institutions in Iraq, particularly Duhok Polytechnic University. Therefore, further research is necessary to determine if this model and questionnaire are suitable for use in various cultural, political, and economic environments at different universities and countries. Second, in this study, the impact of strategic, structural, and operational flexibility dimensions on organizational ambidexterity, specifically Exploration (EPLO) and Exploitation (EXPLT), was examined. However, the study did not consider other controllable factors that may affect organizational ambidexterity, such as organizational culture, leadership styles, human resources management, and training. Further research could provide valuable insights by exploring the effects of these factors on organizational ambidexterity.

Third, this study investigated the direct effects of strategic, structural, and operational flexibility dimensions on organizational ambidexterity. Thus, this study recommends further studies to be conducted to examine the factors that may moderate or mediate the relationship between organizational flexibility and organizational ambidexterity such as the technological capabilities, strategic knowledge, organizational culture, quality of work life, organizational learning.

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Appendix A: Constructs measurements

Statements/items	
A. Organizational flexibility	
1. Structure flexibility	
STRUR-F1	The college/institute designs a flexible organizational structure that can accommodate adaptable organization under environmental pressure.
STRUR-F2	The organizational structure of the college/institute facilitates coordination between various administrative levels.
STRUR-F3	The college/institute can change its organizational structure whenever the environment required that.
STRUR-F4	Communication between various administrative levels within the college/institute is effortlessly and swiftly performed.
STRUR-F5	The college/institute can remove several unnecessary departments and units whenever the environment required that.
2. Strategy flexibility (STRAT-F)	
STRAT-F1	The college/institute develops proper strategic alternatives to mitigate risks and take advantage of environmental opportunities.
STRAT-F2	The college/institute introduces new and innovative services more rapidly than competitors.
STRAT-F3	The college/institute's management is highly capable of adapting to both internal and external variables.
STRAT-F4	The management of the college/institute is able to efficiently and cost-effectively redeploy its resources (human, technological, financial, etc.) into other areas within a short period.
STRAT-F5	The college/institute possesses the capacity to initiate changes or adjustments to its current strategies.
STRAT-F6	The college/institute conducts a continuous assessment of its strengths to realize competitive advantage.
3. Operational flexibility (OPR-F)	
OPR-F1	The duties and tasks of the faculty/staff in the college/institute are diversified and adaptable to changing circumstances.
OPR-F2	The college/institute invests in the available talents and core capabilities.
OPR-F3	The management of the college/institute can provide extra manpower when needed.
OPR-F4	The college/institute offer its employees enough authority to perform their duties in the ways they prefer.
OPR-F5	The college/institute has a flexible workforce that can carry out various duties other than those that they are accustomed to.
OPR-F6	The college/institute utilizes flexible methods and techniques to bring about parity between working hours and the time required for completing duties.
B. Organizational ambidexterity	
1. Exploration (EPLO)	
EPLOR1	The college/institute works on developing its physical capabilities to introduce new and innovative services.
EPLOR2	The management of the college/institute try to find strategic partnerships for enhancing its overall performance.
EPLOR3	The management of the college/institute try to find new methods and approaches for recognizing available opportunities
EPLOR4	The college/institute management cares about new ideas and develop them.
EPLOR5	The management of the college/institute supports research and development efforts made by its staff.
2. Exploitation (EXPLT)	
EXPLT1	The management of the college/institute develops systems and mechanisms for diversifying its educational services.
EXPLT2	The management of the college/institute can restructure its internal operations to improvement its services.
EXPLT3	The management of the college/institute always explores necessary technological tools to achieve excellence in its educational services.
EXPLT4	The management of the college/institute continuously seeks to improve and develop its products to take advantage of available opportunities.
EXPLT5	The management of the college/institute seeks to strategically invest available opportunities to enhance its services.
EXPLT6	The college/institute's management attempts to obtain support from local community institutions to further develop its resources and services.