# AGILE-MINDED ORGANIZATIONAL EXCELLENCE: EMPIRICAL INVESTIGATION

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#### **ABSTRACT**

Each paper must start off with an abstract (with the exception of case studies). The The concept of organizational agility in UAE has been investigated widely in relation to the oil and gas sector and the information technology industry in which the most recent explorations were within the digital marketing field, however, limited research studies investigated organizational agility in relation to organizational excellence in service sector specifically healthcare settings. This study is planned to empirically test the impact of organizational agility on achieving organizational excellence in healthcare services organizations in the UAE healthcare services sector. A quantitative research design, using the surveys-based methodology by adopting two questionnaires to quantify the responses and opinions of the study participants. The study found that organizational agility practices that emphasize extensive sensing agility, and response agility when considered as a comprehensive system, have a significant positive effect on organizational excellence in the UAE healthcare services sector. While agile concepts that have not been explored extensively with respect to the healthcare sector, the study findings emphasized two forms of agility applicable for healthcare settings, sensing agility, and response agility where most of the efforts can be deployed by organizations to achieve excellence. Accordingly, top management in a healthcare setting should precede organizational excellence efforts with organizational agility initiatives. That is because agile organizations are the trend and agility is the valid reason for survival in such a turbulent environment accordingly management should invest in technology, communication channels, and highly mobile resources which are considered as the main enabler of organizational agility.

**Keywords:** Organizational Excellence, Organizational Agility, Quantitative Study, Healthcare, UAE

### INTRODUCTION

"Without exception, all of my biggest mistakes occurred because I moved too slowly." John Chambers, Cisco CEO (Harraf, Wanasika, Tate & Talbott, 2015, 675).

Economic globalization encouraged organizations to excel in their performance to achieve existence along with prosperity, especially in today's increasingly turbulent business environment. Organizational excellence demands the presence of robust components within the organization such as agility, versatility, and innovation coupled with a sustainable advantage, resilience, and stability (Obeidat, 2016; Alshraideh et al., 2017; Waswas & Jwaifell, 2019; Ahmed et al., 2020; Obeidat et al., 2021). Additionally, reaching the level of excellence requires a

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regular and structural strategic analysis that screens both the internal and the external business settings for early detection of strengths, weakness, opportunities, threats, and challenges (Lasrado & Kassem, 2020; Ahmad et al., 2021; Harahsheh et al., 2021; Nuseir et al., 2021). Excellence stems from the ability of the organization to crystalizes its tools and resources to respond actively to any rapid changes, raise the sense of quality to achieve competitiveness, and develop creativity. The current business environment is greatly turbulent, which makes achieving the stated organizational excellence objectives very challenging, and the traditionally adopted techniques for managing the business lost their credibility to effectively manage the day-to-day encounters. Accordingly, a more vigorous approach should replace the previous one, and the most contemporary solution is organizational agility (Darvishmotevali, Altinay & Köseoglu, 2020). Nowadays organizations tend to pursue agility in order to avoid the drawback of moving toward obliteration. Agility helps organizations to bask in the welfare of responding competently and efficiently to dynamic business encounters. Therefore, organizations are sensing the urgency to embrace agility with all it is constituents, including "sensing agility, decision-making, and agility in carrying out work properly". According to a survey carried out by McKinsey 90% of the participating executives believe that organizational agility is critical to business continuity and growth (Sull 2009, cited in Wageeh, 2016).

Historically the concept of agility was deeply rooted in the manufacturing industry, and more specifically the lean manufacturing was the daily operation necessities a large scale of flexibility and nimbleness. In the early 1990s, the agility concept expanded among academic researchers and practitioners in its administration to the entire enterprise. Despite the early application of the agility concept, it is still counted as a novel concept within the contemporary administrative realm especially within the context of the healthcare sector: "agile concepts have not been explored extensively with respect to healthcare sector" (Patri & Suresh, 2019, p.389), while researchers classify the organizational excellence concept as a more mature concept with well-grounded empirical studies (Carvalho, Sampaio, Rebentisch & Saraiva, 2017).

Despite the fact that agility is predominantly originating in a manufacturing firm, this study will explore organizational agility as a way forward to achieve organizational excellence in the United Arab Emirates (UAE) and primarily in the healthcare sector. UAE is one of the leading countries in adopting the excellence journey with all it is dimensions without limitations of time and space. Describing excellence as a journey within the UAE setting is not a slogan, it is a tangible reality where excellence started in 1994 when the Dubai Quality Award was launched as the first-generation which is based on the Malcolm Baldridge Framework. Followed by the second-generation, Sheikh Khalifa Excellence Award in Abu Dhabi (SKEA) in 1999, which was based fully on the EFQM Excellence Model, after that the UAE embraced the Abu Dhabi Government Excellence Award (ADAEP) in 2006. While, the most recent development within the excellence and innovation journey is the fourth-generation model, which is a prominent leap initiated by the UAE Federal Government in 2007 with a major focus on innovation and excellence within the current and future Sighting (Lasrado & Uzbeck, 2017).

The healthcare environment has been always an interesting area for research, especially nowadays with the current epidemic (Corona Virus) circumstances, where the evolution of the healthcare environment becomes necessary for its survival. Like any other pandemic, COVID-19 will eventually disappear, and survivals will have to adopt agile strategies to address the new challenges caused by the post COVID-19 realities Interestingly, the spread of the virus stretched the borders of healthcare agility outside the regular adoption of patient care related technology to

reach the adoption of artificial intelligence which helps in evaluating the spread and to monitor the epidemic (Ehiorobo, 2020).

The leadership within the UAE paid special attention to the healthcare sectors during the epidemic episodes, where signs and symptoms of moving with agility were clear by the decisions taken, technology adopted, and communications channels expanded. Most researchers predict that the healthcare environment will continue to face rapid changes due to the immensely changing technologies that necessitate agility and creativity to increase their power of competitiveness (Lee & Brand, 2005). Studies emphasized that the adoption of the agility concept in clinical settings is imperative to improve the conventional plan-driven implementation process and thus reduce cost, improve patient satisfaction, achieve sustainable healthcare performance outcomes (Mandal, 2020), activate service innovation (Patri & Suresh, 2019), and to increase the organization propensity to open innovation as Professor Henry Chesbrough pointed out in "companies must become nimble at 'open innovation' (Burchardt & Maisch, 2019). Additionally, studies indicate that the comprehensive application of lean management principles in hospitals resulted in a reduction of 71.6% of the waiting time from the first consultation to the diagnostic test, and a reduction by 81.6% of the waiting time from the diagnostic test to the start of treatment along with improved patient outcomes (Prado-Prado, García-Arca, Fernández-González & Mosteiro-Añón, 2020). Accordingly, the prime objective of this research study is to empirically test the impact of organizational agility on achieving organizational excellence in healthcare services organizations in the UAE healthcare services sector.

#### LITERATURE REVIEW

# **Organizational Agility**

There is no magical formula for establishing an agile organization, sine agility as a concept can never be a concert. On the other hand, there are a set of fundamentals that are having a great consensus among authors. Organizational agility is becoming a core competence that can significantly help the firm to grow, differentiate, and reach a competitive advantage. Thus, agility is not an option anymore within the sheer size market with lots of embedded uncertainty; however, it is a must for business survival and continuity. So, what is organizational agility? Why became so prominent? What are its pillars?

Agility within the existing body of literature has many facets and has been tackled from many perspectives such as manufacturing agility, workforce agility, leadership agility, strategic agility, and organizational agility. However, among all the different perspectives the agility concept shares some commonality attributes such as flexibility, adaptability, responsiveness, and pro-activeness. Accordingly, organizational agility is the ability of the organization to respond actively to the internal and external challenges, and uncertainties within the business environments (Erande & Verma, 2008; Sherehiy, Karwowski & Layer, 2007; Sharifi & Zhang, 1999). However, it is important to realize that organizational agility is more than just a survival kit that can be activated during the urgent need for subsistence in erratic business environments. It is also a systematically developed capability that helps organizations in achieving competitiveness; improving partners; managing change and reconfiguring resources including people, information, and technology (Gunasekaran &Yusuf, 2002). Moreover, the agility concept

implies not only being flexible but also to react promptly and wisely to predictable and unpredictable changes (Najrani, 2016).

Moving forward to the why aspect of agility, organizations' willingness's to survive and thrive within the highly dynamic and turbulent business environment has led to the eminence of the agility concept at all the levels prescribed earlier. Besides that, the constantly changing patients' requirements, global competitions, disruptive technological and social factors are the chief reasons for the eminence of the organization agility concept. Therefore, within the current business circumstance organizational agility is regarded as a key business enabler of competitiveness when deployed by the organization in a form of a comprehensive system, were sensing perceived as the system input of any newly emerging event, decision making is treated as the system processes, and acting is the system output.

Conceptualizing organizational agility as a system has been further emphasized by the sense-response process (sensing agility is linked with scanning for new information, the response is linked to decision making that deals with information interpretations and acting agility deals with deploying a plan to act) that views the three strategic tasks as being the central nervous system of the organization (Park, Sawy & Fiss, 2017). Within the context of this research, the type of organizational agility that we are referring to is proactive agility, not reactive agility. Proactively agile organizations predict and detect the emerging trends within the business environment in a timely manner to gain the maximum benefit (Najrani, 2016). Moreover, the organizational agility concept within this study will be conceptualized based on the below dimensions.

## **Sensing Agility**

Sensing agility refers to the organization's ability to systematically and hurriedly detect and monitor all possible organizational opportunities including but not limited to the strategic events, opportunities, or threats that impact the business environment such as the customers, competitors, and technology (Zhou et al., 2018). Successful healthcare organizations with high sensing capability can reconfigure it is resources and mobilize them toward the detected organization opportunities. When organizations cannot sense, then business opportunities will be missed, resources will be unexploited, and consequently, the response capability will not be activated since sensing is considered as the system input (Park et al., 2017).

Various research studies tried to empirically discover the enablers of sensing agility. As illustrated earlier sensing agility necessitates organizations to have strong sensing pods and to achieve organizations must establish numerous communication channels within the internal and external business environment in order to collect the right strategic information (about the competitor and the customers including patients) in a timely manner. Besides that, previous researches indicated that business technology has a strong causal relationship with sensing agility especially in large-size healthcare organizations (Park et al., 2017; Zhou et al., 2018). Hospitals started to adopt disruptive technologies such as blockchain to accomplish data efficiency; data access flexibility, interconnection, transparency, security, and more (Reddy, Madhushree & Aithal, 2020). Such innovative technologies are expected to maximize the sensing ability of healthcare organizations.

## **Decision-Making Agility**

Decision-making is an indicator of the response level capability of the organization and it encompasses the organization's ability to collect, restructure, and then critically appraise the inputs of sensing agility with no delays (Park et al., 2017). After the accumulation of all relevant information from a variety of sources, the organization can develop an alternative action plan along with a revamped competitive procedure. While sensing agility is all about detecting organizational opportunities, decision making agility is responsible for preventing or minimizing the organizational threads from happening (Teece, Peteraf & Leih, 2016).

In addition to that, it is important to note that organizations cannot perform well during the decision-making agility without successfully passing through the sensing agility phase in order to capture all significant events in a timely manner. Then it comes the vital role of decision-making agility in which all the gathered events will be elucidated within the relevant business context and consequently reshaping the current and the future action plan.

Decision-making as a capability is important for all types of industries and particularly to healthcare organizations where life and death decisions need to be made on daily basis. A recent study sheds light on the importance of taking a step-by-step approach for making quality decisions, which will ultimately determine the success and suitability of healthcare organizations. The study proposed the DECIDE ("D for defining the problem, E for establishing the criteria, C for considering all the alternatives, I for identifying the best alternative, D for developing and implement a plan of action, and E for evaluating and monitoring the solution and feedback when necessary") model which encompasses all the necessary activities that organizations with clinical settings should consider whenever a decision needs to be made (Guo, 2020). The model is intended to be a resource for all healthcare managers when applying the crucial components of decision making, and it enables managers to improve their decision-making skills.

#### **Acting Agility**

Acting agility represents the series of actions that take place in the organization as a response to the information collected during the sensing agility phase, and the strategic decisions taken from the decision-making agility phase. Moreover, acting agility reflects the organizational ability to successfully reconfiguring resources, willing to perform business process modification, and accept and adopt new innovations in a timely manner (Overby, Bharadwaj & Sambamurthy, 2006). When a healthcare organization practices agility, many changes can be observed in the organization such as changes to the processes, procedures, policies, and structure (Dutton & Duncan, 1987; Thomas, Clark & Gioia, 1993). Moreover, when acting agility is practiced by the organizations at all levels and in its day-to-day business activities the following business outcomes can be achieved: constantly providing new products and services, achieving sustainable competitive advantage, and the ability to recover faster than others after any major changes to the organization (Sharifi & Zhang, 1999). As noticed from the above description of every dimension the word "in a timely manner" was used repeatedly, and this is to emphasize the importance of time buffer between every phase and the other. This implies finishing the tasks within the first phase (sensing agility) successfully in order to move to the second phase (Decision making agility) and so on. Additionally, finishing the task does not necessarily mean completion to the end, but at least in a way that if a delay happens in one task, it does not impact the other tasks that

depend on it (Gerloff, 1985). In essence, the three organizational agility dimensions when nest together form the whole agility capability system. Thereby, for healthcare organizations to achieve a high level of agility all three dimensions should be thought of carefully. Based on this discussion, the organizational agility constructs in this study will be dealt with as a second-order formative construct which encompasses the three addressed first-order constructs.

# **Organizational Excellence**

Healthcare organizations across the globe continue to strive for excellence as their top strategic priority. In order to achieve this goal, organizations adopt best practices through all spheres of business activities, since best practices are widely considered as the highest standards of products, services and, processes excellence (Toma & Naruo, 2017; Aburayya et al., 2020a&b; Alhashmi et al., 2020). Hence, these practices have been associated solely with excellence in both product and services sectors. Additionally, excellence is becoming a vital measurement indicator of the overall organization's success, prosperity, and competitiveness (Lasrado & Kassem, 2020). Therefore, excellence is becoming a landmark for all modern and agile organizations. Consequently, organization excellence is the journey that an organization purse to achieve the intended strategic objectives with an outstanding level of performance and maintaining the equilibrium between the satisfaction of all concerned stakeholders including employees, customers, and society at large by building the culture of learning, innovation and continuous improvement (Ammari et al., 2017; Dawabsheh, Hussein & Jermsittiparsert, 2019; Almaazmi et al., 2020; Al Nagbia et al., 2020; Al Suwaidi et al., 2020; Nuseir et al., 2021). Reaching Excellence is one of the foremost reasons for organizations to adopt total quality management (TQM) practices after numerous studies confirming the significant impact of TQM on performance and excellence (Hafeez, Basheer, Rafique & Siddiqui, 2018). Thus, the primary intention of organizations is not only to have TQM but also to accomplish excellence and achieve competitive advantage (Dawabsheh et al., 2019). The organization adopts excellence models in order to organize its efforts and resources in a systematic and structured way to ultimately reach superior performance followed by excellence.

There are various excellence models around the world, and they are from different origins (US, Asia, Australia, and Europe). While comparing these models against each other, lots of similarities found especially in terms of the basic concepts and core values (Zink, 2008). Among all models, there are three well-known business excellence models, namely the Malcolm Baldrige National Quality Award (MBNQA), the Australian Business Excellence Framework (ABEF), and the European Foundation for Quality Management Excellence Model (EFQMEM) (Toma & Marinescu, 2018). The reason for converging on the above models is the presence of agility as one of the main core values and concepts within the model. The Baldrige framework aims at helping organizational toward the achievement of excellence and it comprises of seven critical areas (leadership, strategy, customers, measurement analysis and knowledge management, workforce environment and engagement, operations, and results) (Harahsheh et al., 2021; Odeh et al., 2021; Al-Dhuhouri et al., 2020; Alameeri et al., 2020; AlShehhi et al., 2020; Alameeri et al., 2021). Moreover, these elements were further fostered by the model core values which are organizational learning and agility, visionary leadership, a culture of valuing people, and the focus on the system perspectives. Moving to the Australian Business Excellence Framework (ABEF) which represents a framework for leadership, and it supports organizations to sustain a high level of performance. This model consists of seven main categories in which many of them similar to the MBNQA criteria (SAI Global, 2017). The categories are as follows: leadership, customers and stakeholders, strategy and planning, people, information and knowledge, process management, improvement and innovation, results, and sustainable performance.

The EFQM excellence model (2012 version) correspondingly provides a framework for organizations to inspire continuous improvement efforts and it signifies the underpinning for gaining excellence in any type of organization. The EFQM excellence model consists of nine criteria which are classified into five enables (Leadership, strategy, people, partnerships and resources, and processes, products and services) and four results (Customer results, people result, society results, and business results). Additionally, the EFQM excellence model substantiates managing with agility as one of the vital core concepts that underpin the model along with developing organizational capability, harnessing creativity and innovation, leading with vision, inspiration, and integrity. As noticed from the above discussion there were shared components among the three models which are leadership, employees, and strategy. Accordingly, this research article will focus on those excellence dimensions and one more indispensable element which is one of the main sub-criteria of the EFQM excellence model (sub criteria1D: leaders reinforce culture of excellence with people) (EFQM, 2010) as well as the updated version of the EFQM model were cultural elements received great attention and coupled with the leadership which is the prime component of all other excellence models (EFOM, 2019). Furthermore, several research studies bolstered the importance of the cultural element to reach the pinnacle of excellence, which will be further explicated under the cultural excellence section.

## **Leadership Excellence**

Leadership excellence is the foremost pillar that forms the basis of modern management, and it is one of the main criteria that was shared among the three addressed excellence frameworks in addition to the European Quality Award (EQA), and Kanji's Business Excellence (e.g. Metaxas, Chatzoglou & Koulouriotis, 2019; Kanji, 2008). In fact, leadership is not only the predominant excellence criteria but also is perceived as an essential element within the Total Quality Management practices (TQM) (Sit et al., 2009). Recent evidence suggests that there is a number of critical success factors for leadership excellence: the presence of robust and shared values across the organization, the communication of an inspiring vision, the situation of the organization mission, the development of aligned business strategy, the establishment of a comprehensive framework to enable the successful implementation of the excellence model (Kanji, 2005).

A broader perspective of leadership elements has been accentuated by the agility literature. The agility literature conceptualizes the leadership elements in numerous agility concepts such as strategic agility, leadership agility, and organizational agility where leadership is professed as a main capability enabler (Arbussa, Bikfalvi & Marquès, 2017). Strategic agility is an amalgamation of three core dynamic capabilities, leadership unity, resources fluidity, and strategic sensitivity (Ahammad, Glaister & Gomes 2019). Leadership unity in the context of strategic agility "implies the capability of the senior management to instrument a shared vision and objectives without getting bogged down in "win-lose" politics" (Doz, 2019). In summary, leadership is the most potent criteria not only within the realm of business excellence models but also within the strategic agility and organizational agility models.

## **Subordinates Excellence**

Organizations that implement the principles of reaching excellence pay special attention to employee's happiness, engagement, learning, and development and act as a role model to urge subordinate to comply willingly with the organizational excellence standards with the right leadership style and proper organizational culture. Such organizational behaviors promote subordinate's self-transcendence, and interpersonal and professional capabilities (Wang, 2019). Several attempts have been made to explore the most powerful factors to promote people's excellence. Based on Ojha, Vij & Vrat (2014), out of the twenty investigated factors, the three most powerful and visible factors to promote people excellence are leadership vision and commitment to excellence, effective pay system, reward and recognition system that drives employee engagements which eventually leads to people excellence.

Recent developments in the field of internalization of the EFQM model suggests that although the laudable aims for adopting EFQM are clear (for instance to achieve high service quality or improve financial performance) internalizations cannot be accomplished except if we account for the "people" component while adopting the EFQM model (Escrig-Tena, Garcia-Juan & Segarra-Ciprés, 2019).

As inferred from the previous discussion subordinates are the nucleus for adopting and internalizing the excellence model, for sustaining the culture of excellence, and for achieving the required organizational excellence standards. Consequently, and regardless of the origin of the excellence model, all of them successfully encapsulate this crucial competence of excellence under other terms (employee, people, workforce, and subordinate). Subordinates or employee's excellence is represented by the core concepts "valuing people" within the MBNQA criteria, and in the critical area as well "Workforce: workforce capability and capacity, workforce support), Workforce engagement (high performance, workforce engagement and performance, drivers of workforce engagement, factors inhibiting engagement, compensation, and recognition, others indicators of workforce engagement, workforce development needs, learning and development locations and formats, individual learning and development needs, customer contact training, learning and development effectiveness).": (SAI Global, 2017). Moving to the ABEF the subordinate's excellence is embodied under the "people" element. While the EFQM excellence model indicated that "succeeding through the talent of people" as one of the core concepts, and it has been reemphasized under the enablers criteria "People: employees, knowledge and competencies, skills, personal development and training, empowering people, rewarding, reviewing and improving people management, etc", and the results criteria "people results: people's satisfaction, leadership performance, etc". Similarly, the 2019 version of the EFQM model addressed the people component within the framework under criterion three "Engaging stakeholders" which stressed the importance of attracting, engaging, developing, and retaining people.

## **Culture Excellence**

Organizational culture is one bedrock of a successful organization that aims at achieving sustained competitive advantage, reaching growth and excellence, and ensuring effectiveness and efficiency of operations (e.g. Lasrado & Kassem, 2020; Taji, Siadat & Hoveida, 2016; Sit et al., 2009). Furthermore, according to the new EFQM model (EFQM, 2019) building a winning

culture is imperative for organizations to sustain outstanding performance and to exceed the expectations of all stakeholders. Based on the results of an empirical study performed by Dayton (2003) corporate culture and strategic management received the top ranking and the greatest coverage among all other surveyed TQM factors. Moreover, a considerable amount of literature deduced empirically the value of building the culture of excellence in helping organizations to excel in maintaining the highest levels of service quality, maximizing employee engagement and satisfaction, stimulating creativity and innovation (Al-dalahmeh et al., 2018; Metaxas et al., 2019; Hayajneh et al., 2021). Studies revealed that cultural element is vital for successful and long term implantation of organizational excellence, despite this fact this aspect is often overlooked while trying to implement a holistic excellence approach due to the following issues: impact of culture on people values is difficult to be explicitly noticed, implementation of cultural changes organization-wide is difficult and requires significant adjustment to the value and attitude of people, it requires a long time to change and to tangibility feel the change (Amir Bolboli & Reiche, 2014). To overcome the above addressed concerns, studies tried to propose an approach for implementing business excellence based on a well-grounded corporate culture based on five cultural gates to monitor the cultural progress in the way to excellence, especially in relation to the EFQM Excellence Model. The suggested cultural gates act as a roadmap for corporate culture development in the context of business excellence, a detailed description of the gates available in appendix A. In conclusion, excellence as an organizational change largely depends on organizational culture and without establishing the right level of balance and synergy between organization structure and culture, the excellence journey might be difficult to be achieved and sustained.

#### **Strategic Excellence**

A strategy is "derived from a careful analysis of its ecosystem, the way an organization intends to achieve, over a particular time period, its strategic priorities, moving from where it is now to where it wants to be in the future whilst remaining true to its purpose" (EFQM, 2019, p.36). The EFQM model 2019 contended that developing a strategy that is positioned around generating sustainable value for all stakeholders is important for achieving sustained excellence. The nature of the strategy we are referring to is the inspiring strategy with the right mission and vision in place to deliver operational excellence. Additionally, the strategy is the road map that helps organizations way forward for excellence, and on this basis, the EFQM model 2019 RADAR logic proposed that organizations should identify and regularly monitor the performance results that aim primarily at achieving its ultimate strategy. Research studies indicated that the stoutest direct positive causal relationship is detected between leadership and strategy, and this is not surprising since both elements are associated with the senior management and its impact diffuses across the performance pyramid of the organization (Paraschi, Georgopoulos & Kaldis 2019). Strategic excellence embraces several dynamic pillars to make the strategy more alive setting the vision, mission, and goals with consideration of the needs and expectations of all stakeholders, selecting a visible target, integrating the strategic plan with the overall performance system, communicate the plan and target, executing the strategy deploying action plans, projecting the organization future environment, reviewing and adjust until strategy is fully incorporated with the organization's culture (Toma & Marinescu, 2018).

## **Hypotheses Development**

Agility paves the organizations way toward responding efficiently to the constant and dynamic changes within the business environment through systematic sensing and exploiting of opportunities. This notion is tightly linked with open innovation since it is considered as a strategic resource that entails probing beyond organisational boundaries to discover opportunity in a timely manner (Liao, Liu & Ma, 2019). Accordingly, open innovation theory is another widely applicable framework for this research study.

"Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology" (Chesbrough et al., 2008)". Thus, agility can promote open innovation is several ways. First, ameliorating the organization sensing capabilities by promoting the inflows and outflows of knowledge across the organization's boundaries for better scanning and disclosing of market opportunities (Zhou et al., 2018). Second, timely processing of the sensing inputs for reshaping of the current and the future action plan- including the adoption of innovative technologies that will reshape the business operating model- which is integral part of the decision-making agility (Park et al., 2017). Third, enhancing the organizational capability to reconfigure its resources, and consequently empower the business leader to embrace new innovations in a timely manner (Overby, Bharadwaj & Sambamurthy, 2006).

Additionally, the dynamic capability theory is another applicable frame since organizational agility is considered as an organizational capability and organizational excellence embraces developing organizational capability and workforce capability as a fundamental excellence principle (Toma & Naruo, 2017). The theory explicates how organizations deal with the fast-based business setting by efficient and effective consumption and reconfiguration of the internal and external resources and competencies. Additionally, the dynamic capability theory forms the foundation for achieving competitive advantage through the organizational capability by exploring, learning, and accordingly renovates all available capabilities (Teece et al., 2016). An equally important theory is the contingency theory (Fiedler 1964, cited in Darvishmotevali et al., 2020) since the concept of organizational agility heavily involved responding to continuous and aggressive changes. The fundamental assumption of the contingency theory is that organizations will be efficacious if their structure is very flexible and adaptive to any changes within the business environment. Accordingly, this research views organizational agility as a key enabler that will help organizations to act proactivity to complex changes with uncertain environments.

Organizational excellence programs successfully demonstrated its value in supporting organizations to improve their performance and reach a competitive advantage. However, belatedly, these programs seem to become stagnate and unable to keep up with the expected level of performance (Carvalho et al., 2017). This is due to the lack of proper and systematic amalgamation between excellence and agility especially in the context of a hyperactive business environment. This becomes even more evident while critically appraising the updated version of the EFQM model 2019 manual, which acknowledges that agility research initiatives have been one of the main drives for reshaping the updated EFQM model, below quotes is adopted from the 2019 EFQM model manual " (EFQM, 2019). "The ability to identify and then respond in an

agile, effective and efficient manner to the opportunities and threats that exist within the organization's ecosystem Nowadays, more than ever, an organization has to deal with managing two challenges in parallel, the effective management of change and, at the same time, managing today's operations. Successfully managing this dilemma helps an organization in its drive to be fit for the future". Moreover, the updated EFQM model defined the concept of agile in the context of excellence journey as "Agile: The organization's ability to change direction/focus in response to an emerging opportunity or threat in a timely way" (EFQM, 2019).

According to the EFQM framework, excellent organizations are broadly recognized for their capability to detect and react excellently to opportunities and threats in a timely manner (EFQM, 2010). As interfered from the organizational agility section identifying and responding are the mean features of agile organizations. Similarly, and as indicated by the MIT Sloan School of Management's Center for Information Systems Research agility research studies divulges that agile organizations demonstrate superior business value (satisfying stakeholders expectations, and achieving competitive advantage) compared to their industry groups (Abdallah et al., 2016; Weill, Subramani & Broadbent, 2002), other research studies also declared that decidedly agile organizations are more likely to experience great success while exploring new business initiatives as their counterparts with low agility. Based on those two declarations, detecting opportunities and threats in a timely manner which is a principal component in agility, it has been identified by EFQM as an important trait of excellent organization. Consequently, the hypothesized relationship is that organizational agility including all its dimensions (sensing agility, decision-making agility, and acting agility) when considered as a comprehensive system will positively impact organizational excellence.

Based on the above literature review the proposed conceptual model consists of one dependent variable (organizational excellence) with four main dimensions (leadership excellence, subordinates' excellence, culture excellence, and strategic excellence), and one independent variable (organizational agility) with three key dimensions (sensing agility, decision-making agility, and acting agility). Figure (1) represents the diagrammatic presentation of the conceptual model.

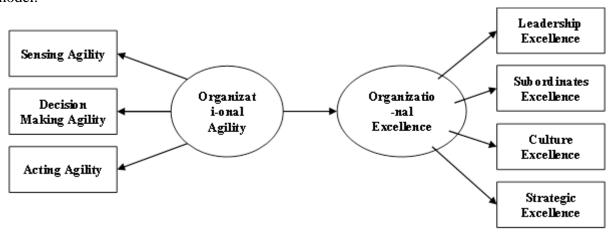


FIGURE 1 PROPOSED CONCEPTUAL MODEL

The proposed conceptual model aims at answering the following question and hypothesis.

To what extent do the organizational agility practices that emphasize extensive sensing agility, decision-making agility, and acting agility, when considered as a comprehensive system, affect organizational excellence in health care services organizations within the UAE setting? The initial research hypotheses are:

Organizational agility practices that emphasize extensive sensing agility, decision making agility, and acting agility, when considered as a comprehensive system, have positive effects on organizational excellence in health care services organizations.

- H1 Organizational agility (Sensing agility) has positive effects on organizational excellence in health care services organizations.
- H2 Organizational agility (Decision-making agility) has positive effects on organizational excellence in health care services organizations.
- H3 Organizational agility (Acting agility) has positive effects on organizational excellence in health care services organizations.

#### RESEARCH METHODS

## Sample and Data Collection

The targeted respondents are employees working in the healthcare service industry (staff nurse, physician, pharmacist, or medical technicians), within the United Arab Emirates (UAE). The healthcare employees working within the UAE's government network, which is the largest public healthcare network in country with 12 high-end hospitals, over sixty out-patient clinics and seventeen thousand employees. Facilities under the selected healthcare entity have won various excellence awards in which the most recent once are Sheikh Khalifa Excellence Award-Achieved Diamond Award (2020) and Achieved the JCIA Reaccreditation and sustaining the 'Gold Seal' (2018).

Table 1 FREQUENCY DISTRIBUTION TABLE OF THE SAMPLE DEMOGRAPHICS (N=335)									
Characteristic	Category	Percentage	Characteristic	Category	Percentage				
	Male	64.80%	Education	Diploma	8.40%				
Gender	Female	35.20%		Bachelor's degree	54.60%				
	18-24	0.60%		Master's degree	29.60%				
	25-34	24.50%		PhD	7.50%				
Age	35-44	47.20%	Number of employees	Jan-49	21.50%				
	45-54	22.10%	emproyees	50-999	23.90%				
	55<	5.40%		1000 -4999	12.20%				
	>5	7.80%		5000<	27.20%				
	10-May	18.20%		others	15.20%				
Experience	16-Nov	27.50%							
	16<	46.60%							

Table (1) represents the frequency distribution table of the sample demographics details. Data were collected using survey Monkey Survey software, in which the total number of

responses were (437), (65) responses collected for the purpose of performing the pilot study, and after validating the instrument additional (335) responses were collected and analyzed, and the rest were discarded due to either incompleteness or calculated probability below 0.001 caused by multivariate Outliers discovered using Mahalanobis distance (23) responses excluded from the analysis. The described sample is representative and proportional to the total population size (around seventeen thousand employees) at a 95% confidence interval (Black, 2009). Moreover, based on the rule of 5 to 10 observations per every variable sampling adequacy can be achieved between (175-350) sample size (Comrey & Lee, 1992, cited in Yong & Pearce, 2013).

#### **Instrument**

The measuring instruments for both organizational agility and organizational excellence were adopted from existing literature to ensure better reliability and validity. The organizational agility questionnaire is perceived as the most appropriate questionnaire to explore agility at the organizational level since it covers the main agility dimensions understudy, with high-reliability results 0.895 Cronbach's alpha as reported by previous studies (Wageeh, 2016). Regarding organizational excellence, the tool's validity and reliability have been tested by many researchers in different countries (Karimi, Atashpour & Hasanzade, 2014). The full questionnaire items are listed in Appendix B.

# **Organizational Agility Scale**

The three dimensions of organizational agility were adopted from scales of exciting market orientation capabilities scale developed by Jaworski & Kohli (1993). The sensing agility items represent the market orientation (intelligence generation) items from the original scale. While the decision-making agility represents the act for the market orientation (response design) items from the original scale and acting agility signifies the market orientation (response implementation).

## **Organizational Excellence Scale**

Organizational excellence was measured by four excellence dimensions (leadership excellence, subordinates' excellence, culture excellence, and strategic excellence). The items for measuring the addressed dimensions adopted from Kandula (2002); Hesselbein & Johnston (2002).

Responses to all item's scales for both organizational agility and organizational excellence were anchored on a five (5) point Likert scale for each statement, ranging from (5) "full agreement," (4) for "agree," (3) for "neutral," (2) for "disagree," and (1) for "full disagreement.". To comply with the best practice when adopting a scale from previous literature, the anchor of response options was not changed from those used when the scale was originally developed (Flake & Fried, 2020; Fried & Flake, 2018).

Within the adopted questionnaire five negatively worded question was used "polar opposite" to minimize the acquiescence bias which occurs mostly when the participant tends to agree with the items without carefully reading the actual content due to laziness, or when respondents automatically adopt a specific response pattern (Baumgartner & Steenkamp, 2001; Nunnally & Bernstein, 1994). Research studies indicate that the use of negatively worded

questions helps is slowing down the speed of response and lets the participant stop and think about cognitive reasoning behind the items. Moreover, they contribute to the overall validity of the measurement by intensifying the approach in which respondents' reason and position their beliefs about the construct under study (Menold, 2019; Weijters & Baumgartner, 2012). The below table (2) illustrates the type of every item.

Table 2 TYPES OF ITEMS BASED ON THE WORDING OF THE SENTENCE							
Construct	Construct Item						
	SA1: The organization has been slow in terms of detecting changes that occur in customer preferences for services.	Polar Opposite					
Sensing agility	SA2: The organization has been slow to detect changes that occur in the movements of competitors	Polar Opposite					
	SA3: The organization has been slow to detect changes in technology.	Polar Opposite					
Subordinate excellence	SOE3: Employees in my organization avoid the participation of the organization's management in taking decisions and implementing them	Negated Positive	(Menold, 2019)				
Cultural excellence	CE3: The relative change in the organization's culture is always negative.	Polar Opposite					
Decision making agility							
Acting agility  Leadership excellence Subordinate excellence Cultural excellence Strategic excellence	Rest of the questionnaire items	Direct positive					

The importance of the pilot test cannot be overemphasized in research since it helps in reducing the overall pressure of the researcher experience in trying to get to the final results. Accordingly, prior to conducting the full-scale survey, a pilot study was performed to meet the following objectives: test the adequacy of the research instrument (the used 35 items questionnaire), assessing the feasibility of the full-scale study in terms of the ability to get a good number of responses within a reasonable time frame, and to assess the likely success of the overall proposed recruitment approach. Based on (Emory & Cooper, 1991, cited in Fadhel, Idrus & Abdullah et al., 2020) 25 to 100 respondents are appropriate for a pilot study, so the 65 responses collected for the sake of performing the pilot study deemed to be suitable. Moreover, it is worth mentioning that the 65 pilot participants were not included in the main study and the data from the pilot study was excluded from the main study aiming at avoiding contamination which is one of the most common limitations of the pilot study. Table (3) represents the result of the pilot study results, all Cronbach's alpha coefficients were above 0.7 accordingly the used 35 items questionnaire was found to be highly reliable (Gliem & Gliem, 2003).

Table 3 PILOT STUDY CRONBACH'S ALPHA COEFFICIENT							
Variable	Dimension	Number of Statements	Cronbach's alpha				
	Sensing Agility	3	0.791				
OA	Decision Making Agility	5	0.869				

	Acting Agility	7	0.913
	Leadership excellence	5	0.839
OE	Subordinates excellence	5	0.755
	Culture Excellence	5	0.722
	Strategic Excellence	5	0.724

#### **RESULTS**

Several essential data preparation steps have been taken, including data coding, data cleaning, data transformation (using the inverse DF -distribution function-), reversing the negative questions, and data normalization. Afterward, Common Method Bias test and other validity and reliability test were performed, followed by Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA).

#### **Assessment of Common Method Bias**

Due to the fact that this study used a single method for data collection (survey) in which both data for dependent and independent factors were collected using one instrument a post hoc procedure using Harmon's single-factor test was performed to examine for Common Method Variance (CMV) issues. Despite the limitations of this test it is still recommended to perform the test since it provides useful insight about the presence of a substantial single or general factor that will lead to most of the covariance among the measures, where the threshold value is 50% (e.g. Podsakoff et al., 2003; Podsakoff & Organ, 1986). The CMV result is 48% accordingly; we can say that there is no single factor that is accountable for variance in the data.

#### Reliability and Validity

Data were analyzed primarily through IBM Statistical Package for Social Sciences (SPSS software) version 23.0 along with AMOS version 23, and Microsoft Excel 365 ProPlus for testing composite reliability, discriminant validity, and convergent validity.

## Reliability

Reliability reflects the degree of stability and consistency of a scale in measuring the intended phenomenon (Younas & Porr, 2018). Internal consistency is the most commonly used methods for assessing reliability in quantitative research (Santos-Vijande & Alvarez-Gonzalez, 2007), and the most commonly used method to indicate the reliability coefficient is Cronbach's coefficient alpha. Reliability analysis was performed for both the pilot data and the actual study data using Cronbach's alpha on the 15 items scale that measures organizational agility (3 items for organizational agility, 5 items for decision-making agility, 7 items for the acting agility) and the 20 items scale that measures organizational excellence (5 items each for leadership excellence, subordinates excellence, cultural excellence, strategic excellence). The overall Cronbach's alpha for the organizational agility construct is  $\alpha$ =0.936, and for the organizational excellence is  $\alpha$ =0.925 most items appeared to be worthy of retention exception to this were items (SO3, CE3, SE3) as seen in table 4. Consequently, there is enough evidence to reject the null

hypothesis and to conclude that the survey scale is an internally consistent and reliable instrument.

	Table 4 ACTUAL STUDY CRONBACH'S ALPHA COEFFICIENTS								
Variable	No. of deleted items								
	Sensing Agility	3	0.768	No Item deleted					
OA	Decision Making Agility	5	0.845	No Item deleted					
	Acting Agility	7	0.897	No Item deleted					
	Leadership excellence	5	0.856	No Item deleted					
OE	Subordinates excellence	5	0.77	One item deleted (SO3)					
OE	Culture Excellence	5	0.771	One item deleted (CE3)					
	Strategic Excellence	5	0.835	One item deleted (SE3)					

Furthermore, the inter-item correlation was performed to examine the extent to which each item is correlated with it is global (composite) factor (Cohen & Swerdlik, 2005). As illustrated in table (5) the correlation among the individual items and it is composite score is strong since all correlation is>than 0.75 and the correlation ranged from 0.744 to 0.851which indicates high internal consistency among the items (Nunnally & Bernstein, 1994).

Table 5 INDEPENDENT FACTOR INTER-ITEM CORRELATION							
Variable	Dimension	Pearson Correlation	Significance Level				
	SA1	0.851**	0				
Sensing Agility	SA2	0.840**	0				
	SA	0.824**	0				
	DM1	0.800**	0				
5	DM2	0.823**	0				
Decision Making Agility	DM3	0.810**	0				
riginty	DM4	0.828**	0				
	DM5	0.817**	0				
	AA1	0.822**	0				
	AA2	0.829**	0				
	AA3	0.810**	0				
Acting Agility	AA4	0.822**	0				
	AA5	0.806**	0				
	AA6	0.813**	0				
	AA7	0.744**	0				
**. Correla	tion is significa	nt at the 0.01 level (2-	tailed).				

## **Composite Reliability**

Composite reliability or construct reliability is another measure of internal consistency that was retrieved after getting the factors loading from the Confirmatory Factor Analysis (CFA)

(Ketchen & Bergh, 2004). Moreover, composite reliability is an "indicator of the shared variance among the observed variables used as an indicator of a latent construct", and the threshold for composite reliability is 0.70 (e.g. Ketchen & Bergh, 2004; Fornell & Larcker, 1981). Table (6) demonstrates the composite reliability values for each dimension were greater than the recommended threshold level (0.70).

# Validity

Since achieving a high level of reliability is not good enough and indeed, it is only marginally relevant to whether the instrument deployed is actually measuring what the researcher intends to measure, further validity tests was carried out. Validity refers to "the extent to which a scale truly measures the established operational definition of the intended phenomenon" (Younas & Porr, 2018). There are three fundamental types of validity will be investigated within the context of this research study: content validity, convergent and discriminant validity or divergent, and criterion-related validity.

## **Content Validity**

Content validity or logical validity denotes the degree to which the content of the measuring scale correspondence with the content of the construct under study (Field, 2009). Distinct from the other types of validity, content validity is not evaluated numerically. Accordingly, the questionnaire was validated in terms of clarity, items, and overall structure by obtaining expert advice from two professors one form the British university of Dubai who is an associated professor at the faculty of business and law and another professor from the University of Salford Manchester UK who is an expert in organizational learning and excellence and leader in the advisory board for the University of Salford in GCC and Chairing the OLC MENA, and superintendent at International Performance Excellence, IPE. In addition to that, the selection of the questionnaire items was also armored by the intensive and comprehensive review of the relevant literature. It is therefore contended that the organizational agility construct and the organizational excellence construct can be considered having content validity.

# **Discriminant Validity**

The discriminant or divergent validity was assessed to ensure that the scale used to measure a different construct is certainly measuring a distinct one (Ketchen & Bergh, 2004). Table (6) shows the square root of Average Variance Extracted (AVE) and by comparing these values of the inter-construct correlations the shared variance observed between the pairs of constructs is lower than their square root of (AVE), accordingly. We can claim that discriminant validity is evident.

As noticed from the results of the EFA the targeted respondents perceived the three dimensions of agility as two dimensions were the items of decision-making agility and acting agility loaded together, and respondents did not recognize them a two separate but inert related variable. In fact, the items of decision making some loading to the sensing agility ("DM2: The organization detects the opportunities and threats to changes in customers, competitors, and technology in time"), and others loaded on the acting agility ("DM3 The organization carries out a specific action plan in order to meet customer needs without any delay"). Coming back to DM2

loading on sensing agility, this actually makes a good sense because detecting threads and opportunities within the environment pertains solely to the sensing agility act (Zhou et al., 2018). Similarly, DM3 which mainly focuses on implementing actions plan applies to acting agility, while developing the action plan refers to decision making agility.

	Table 6 STANDARDIZED REGRESSION WEIGHTS RETRIEVED FROM AMOS											
Indicat or Variab les	Latent Variabl es	Estim ate (λ1)	Square of Standard ized Loading (λ^2)	ε =1-λ^2	Sum of (λ1)	Sum of the Squared Standar dized Loading s	Sum of $\epsilon = 1$ - $\lambda^2$	Numbe r Of Indicat ors	AV E	Square Root of AVE	Composit e Reliabilit y	inter- construct correlati ons
NAA6	1	0.778	0.605	0.395	5.70							
NAA5	1	0.755	0.57	0.43						0.51 0.714 0.892	0.802	
NAA4	1	0.742	0.551	0.449					0.51 0.714			
NAA1	1	0.741	0.549	0.451		4.083	3.917	8				
NAA2	1	0.733	0.537	0.463	1	4.063	3.917	0			0.892	
NAA7	1	0.666	0.444	0.556								0.684**
NAA3	1	0.658	0.433	0.567	]							
NDM3	1	0.628	0.394	0.606								
SA3M	2	0.758	0.575	0.425								
SA2M	2	0.728	0.53	0.47	2.16	$\begin{bmatrix} 2.16 \\ 1 \end{bmatrix}$ 1.56	1.44	3	0.52	0.721	0.764	
NDM2	2	0.675	0.456	0.544	]	1						
	Convergent Validity: AVE must be 0.5 or more than 0.5											
	Discriminant Validity: Square Root of AVE must be more than the latent variable correlation											

## **Exploratory Factor analysis (EFA) and Confirmatory Factor Analysis (CFA)**

Exploratory Factor Analysis (EFA) was performed to discover the underlying structure of the study in terms of how the participant perceived every dimension and to detect if this differs from the adopted conceptual model structure see conceptual model figure (1). EFA was carried out using Principal Component Analysis (PCA) with varimax rotation and scree plot extraction option, and the result was two factors extracted knowing that within the originally adopted model as per the literature there are 3 factors. When trying to force the model into three factors to adhere to the literature two main issues were found, first convergent and discriminant validity was not achieved. Second, in the parallel analyzes; the third factor mean eigenvalue is (0.920), while the EFA third factor eigenvalue is (0.857). Accordingly, two factors were accepted in this study (Factor 1: sensing agility, Factor 2: response agility) with Kaiser-Meyer-Olkin (KOM) of (0.943) which indicates the sample is adequate. The correlation matrix is adequate where the minimum correlation is between the variables is (0.341) and the maximum correlation is (0.721), and Bartlett's test is significant (0.000).

EFA was followed by CFA and for the revised conceptual model and hypothesis, with all types of reliability test meeting the threshold value, (Cronbach's alpha of factor 1: sensing agility 0.720, factor 2: Response agility 0.910), and CMV is 49%. Accordingly, in this research, and based on the empirical data analysis, organizational agility is being conceptualize into two main

dimension: the first is sensing agility, while the second is response agility and this finding is congruent with other research studies within the information technology and intelligence realm that views organizational agility as a sense- response cycle (e.g. Park et al., 2017; Nazir & Pinsonneault, 2012; Overby et al., 2006). A revised conceptual and hypotheses are furnished in Figure 2.

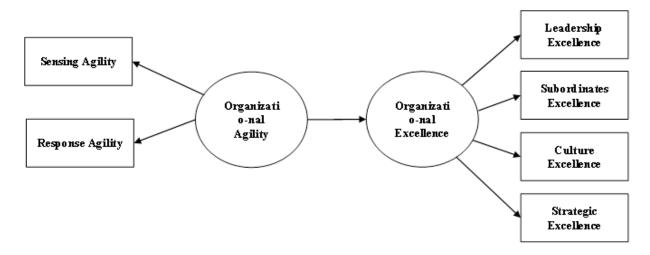


FIGURE 2
REVISED CONCEPTUAL MODEL

## **Hypotheses Testing**

Based on the correlation analysis illustrated in table (7) we can deduce that organizational agility, dimensions (sensing agility, and response agility) have a significant and strong positive correlation (r=0.684, p<0.000 and r=0.740, p<0.000) with organizational excellence (Hastie, Tibshirani, & Friedman, 2009).

	Table 7 DESCRIPTIVE STATISTICS AND CORRELATION MATRIX OF CONSTRUCTS							
	Variables	Mean	Std. Deviation	1	2	3		
1	Sensing Agility	3.61	0.68	1				
2	Response Agility	3.7	0.569	0.684**	1			
3	Organizational Excellence	3.69	0.491	0.634**	0.740**	1		
	Note. ** Correlation is significant at 0.01 level.							

Moving to the hypothesis testing, the coefficient of determination (R square) ranges from 0 to 1 and it reflects the proportion of variance in the dependent variable that is explained by the independent variable. In this case the R square is (0.582), which means around 58% of the variations in the OE is explained by OA. The multiple R for the relationship between OA and OE is 0.763 which is characterized as strong since the value is greater than 0.60 and less than or equal to 0.80 is considered being strong (Hastie et al., 2009). The f value is (221.821) and the p-value is (000), which is less than 0.005 which means there is at least one regression coefficient different from zero, and in the study, we gave two main coefficients. So, we support the research hypothesis that there is a positive relationship between OA (sensing agility, and response agility)

and OE. For the independent variables sensing agility, the probability of the t statistics (5.115) for the b coefficient is <0.001 which is less than 0.005, so we reject the null hypothesis that the slope associated with sensing agility is equal to zero (b=0) and conclude that there is a statistically significant relationship between sensing agility and organizational excellence. Concerning the other independent variables response agility, the probability of the t statistics (11.707) for the b coefficient is <0.001 which is less than 0.005, so we reject the null hypothesis that the slope associated with sensing agility is equal to zero (b=0) and conclude that there is a statistically significant relationship between response agility and organizational excellence (Table 8).

Table 8 REGRESSION ANALYSIS AND TESTING OF THE RESEARCH HYPOTHESIS									
Dependent Variable Independent Variables B t Sig. VIF									
Ourseinstianal Ensellance	Sensing Agility	0.184	5.12	0	1.821				
Organizational Excellence	Response Agility	0.517	11.71	0	1.821				
R=0.763, R2=0.852, F=221.82 (Sig, P<0.000)									

#### **CONCLUSION**

This study aimed at investigating the impact of organizational agility on organizational excellence in healthcare settings with the UAE context. As noticed from the above discussion agility in today's turbulent business environment is becoming a key and critical dimension of organizational excellence. Accordingly, we can conclude that organizational agility is an organizational capability that healthcare organizations can develop by considering the sensing agility and response agility as a comprehensive system. Within the 21st century agility is no longer an optional alternative, but a reason for existence with excellence. Organizational agility experts believe that it's the bedrock of a successful healthcare organization, and the finding of this research study supports this notion by addressing that organizational agility has a significant positive impact on organizational excellence when both sensing agility and response agility deployed successfully within the organization.

The study findings imply that there is a significant relationship between organizational agility as overall and when considering its two integral parts (sensing agility and response agility) and organizational excellence in the healthcare sector in UAE. This is consistent with the finding that organizational agility positively impacts organizational excellence in the Telecommunication sector in Egypt (Wageeh, 2016), and with the study of (Mische, 2000, cited in Harraf et al., 2015) which supports the notion that organizational agility enables the organization operational effectiveness and excellence. Moreover, the finding of this research study is vital since it contributes theoretically and practically to different stakeholders with the organization as address in the following sections.

## **Theoretical Implications**

The theoretical contribution of this study is of twofold. First, the study empirically tested the impact of organizational agility practices on achieving organizational excellence in healthcare sectors. This comes in response to various systematic literature reviews in healthcare settings where agile concepts have not been explored extensively with respect to the healthcare sector. Second, the study findings emphasized two forms of agility applicable for healthcare settings,

sensing agility, and response agility where most of the efforts can be deployed for organizations to achieve excellence.

## **Practical Implications**

Top management in a healthcare setting should precede organizational excellence efforts with organizational agility initiatives (such as detecting threats and opportunities within the internal and external business environment, developing the necessary action plan along with along with a revamped competitive procedure, reconfiguring the right organizational resources to respond to the threats and opportunities in a timely manager). Additionally, proactively agile organizations are the trend and agility are the valid reasons for survival in such a turbulent environment accordingly management should invest in the technology, communication channels, and highly mobile resources which are considered as the main enabler of organizational agility. Moreover, the study finding increases the manager's awareness of employing agility since it is an enabler for organizational excellence including subordinate's excellence. In summary, the findings could generate new action plans under the following departments or sections under any health care services organization information technology department: Aiming at investing in the technology related to sensing the thread and opportunities in the organization such as business intelligence and forecasting tools, communication technology with internal and external stakeholders, digital marketing, and others. Human resources department: aiming at maximizing subordinate's excellence through investing in the various facets of organizational agility such as empowering people with advanced tools for knowledge management which assist in discovering new opportunities and challenges. Strategic and excellence department: aiming at reaching sustainable excellence through considering and investing in the organizational agility dimensions as an excellence enabler.

#### **Limitations and Future Research**

One of the major limitations of the above study is that the selected sample is exclusively from UAE, so generalizations to other regions can be done but with caution. Moreover, the selected service industry is healthcare accordingly the result might not be generalizable to other service industries. Future recommendations are to conceptualize organizational agility as a dependent variable and to explore the impact of different independent factors such as technology and artificial intelligence, knowledge management, and workforce agility. Moreover, the same study can be repeated by performing a comparative study between private and government hospitals to see if the level of agility differs significantly in the UAE among different service sectors. Additionally, organizational agility can be theorized as a mediator between business model innovation and environmental uncertainty.

## **REFERENCES**

Abdallah, A.B., Obeidat, B.Y., Aqqad, N.O., Al Janini, M.N.E.K., & Dahiyat, S.E. (2016). An integrated model of job involvement, job satisfaction and organizational commitment: A structural analysis in Jordan's banking sector. *Communications and Network*, 9(1), 28-53.

Aburayya, A., Alshurideh, M., Alawadhi, D., Alfarsi, A., Taryam, M., & Mubarak, S. (2020). An investigation of the effect of lean six sigma practices on healthcare service quality and patient satisfaction: Testing the

- mediating role of service quality in Dubai primary healthcare sector. *Journal of Advanced Research in Dynamical and Control Systems*, 12(8), 56-72.
- Aburayya, A., Alshurideh, M., Albqaeen, A., Alawadhi, D., & Ayadeh, I. (2020). An investigation of factors affecting patients waiting time in primary health care centers: An assessment study in Dubai. *Management Science Letters*, 10(6), 1265-1276.
- Ahammad, M.F., Glaister, K.W., & Gomes, E. (2019). Strategic agility and human resource management. *Human Resource Management Review*, 30(1).
- Amir Bolboli, S., & Reiche, M. (2014). Culture-based design and implementation of business excellence. *The TQM Journal*, 26(4), 329-347.
- Alameeri, K., Alshurideh, M., Al Kurdi, B., & Salloum, S.A. (2020). The effect of work environment happiness on employee leadership. *In International Conference on Advanced Intelligent Systems and Informatics Cham.*
- Alameeri, K.A., Alshurideh, M.T., & Al Kurdi, B. (2021). The effect of covid-19 pandemic on business systems' innovation and entrepreneurship and how to cope with it: A theatrical view. *The Effect of Coronavirus Disease (COVID-19) on Business Intelligence*, 334, 275.
- Al-dalahmeh, M., Khalaf, R., & Obeidat, B. (2018). The effect of employee engagement on organizational performance *via* the mediating role of job satisfaction: The case of IT employees in Jordanian banking sector. *Modern Applied Science*, 12(6), 17-43.
- Al-Dhuhouri, F.S., Alshurideh, M., Al Kurdi, B., & Salloum, S.A. (2020). Enhancing our understanding of the relationship between leadership, team characteristics, emotional intelligence and their effect on team performance: A Critical Review. *In International Conference on Advanced Intelligent Systems and Informatics, Cham.*
- Alhashmi, S.F., Alshurideh, M., Kurdi, B.A., & Salloum, S.A. (2020). A systematic review of the factors affecting the artificial intelligence implementation in the health care sector. *In The International Conference on Artificial Intelligence and Computer Vision, Cham.*
- Almaazmi, J., Alshurideh, M., Al Kurdi, B., & Salloum, S.A. (2020). The effect of digital transformation on product innovation: a critical review. *In International Conference on Advanced Intelligent Systems and Informatics, Cham.*
- Al Naqbia, E., Alshuridehb, M., AlHamadc, A., & Al, B. (2020). The impact of innovation on firm performance: A systematic review. *International Journal of Innovation, Creativity and Change*, 14(5), 31-58.
- AlShehhi, H., Alshurideh, M., Al Kurdi, B., & Salloum, S.A. (2020, October). The impact of ethical leadership on employees performance: A systematic review. *In International Conference on Advanced Intelligent Systems and Informatics, Cham.*
- Alshurideh, M. (2014). The factors predicting students' satisfaction with universities' healthcare clinics' services. Dirasat. *Administrative Sciences*, 41(2), 451-464.
- Al Suwaidi, F., Alshurideh, M., Al Kurdi, B., & Salloum, S.A. (2020). The impact of innovation management in SMEs performance: A systematic review. *In International Conference on Advanced Intelligent Systems and Informatics, Cham.*
- Ammari, G., Alkurdi, B., Alshurideh, A., & Alrowwad, A. (2017). Investigating the impact of communication satisfaction on organizational commitment: A practical approach to increase employees' loyalty. *International Journal of Marketing Studies*, 9(2), 113-133.
- Ahmed, A., Alshurideh, M., Al Kurdi, B., & Salloum, S.A. (2020). Digital transformation and organizational operational decision making: A systematic review. *In International Conference on Advanced Intelligent Systems and Informatics, Cham.*
- Ahmad, A., Alshurideh, M.T., Al Kurdi, B.H., & Salloum, S.A. (2021). Factors impacts organization digital transformation and organization decision making during covid-19 pandemic. *The Effect of Coronavirus Disease (COVID-19) on Business Intelligence*, 334, 106-95.
- Alshraideh, A.T.R., Al-Lozi, M., & Alshurideh, M.T. (2017). The impact of training strategy on organizational loyalty *via* the mediating variables of organizational satisfaction and organizational performance: An empirical study on Jordanian agricultural credit corporation staff. *Journal of Social Sciences*, 6(2), 383-394.
- Arbussa, A., Bikfalvi, A., & Marquès, P. (2017). Strategic agility-driven business model renewal: The case of an SME. *Management Decision*, 55(2), 271-293.
- Baumgartner, H., & Steenkamp, J.B.E. (2001). Response styles in marketing research: A cross national investigation. *Journal of Marketing Research*, 38(2), 143-156.
- Black, K. (2009). Business statistics: Contemporary decision making. John Wiley & Sons.
- Burchardt, C., & Maisch, B. (2019). Digitalization needs cultural change–examples of applying agility and open innovation to drive the digital transformation. *Procedia CIRP*, 84, 112-117.

- Carvalho, A.M., Sampaio, P., Rebentisch, E., & Saraiva, P. (2017). Quality, excellence and culture in the pursuit of organizational agility. *In 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, 1714-1718.
- Cohen, R.J., & Swerdlik, M.E. (2005). *Psychological testing and assessment: An introduction to tests and measurement* (6<sup>th</sup> edition). New York: McGraw-Hill.
- Darvishmotevali, M., Altinay, L., & Köseoglu, M.A. (2020). The link between environmental uncertainty, organizational agility, and organizational creativity in the hotel industry. *International Journal of Hospitality Management*, 87.
- Dawabsheh, M., Hussein, A., & Jermsittiparsert, K. (2019). The triangular relationship between TQM, organizational excellence and organizational performance: A case of Arab American University Palestine. *Management Science Letters*, 9(6), 921-932.
- Dayton, N.A. (2003). The demise of Total Quality Management (TQM). The TQM Magazine, 15(6), 391-396.
- Doz, Y. (2019). Fostering strategic agility: How individual executives and human resource practices contribute. *Human Resource Management Review, 30*(1).
- Dutton, J.E., & Duncan, R.B. (1987). The creation of momentum for change through the process of strategic issue diagnosis. *Strategic Management Journal*, 8(3), 279-295.
- EFQM, (2010). *EFQM model for business excellence EFQM*. Brussels: European Foundation for Quality Management.
- EFQM, (2019). The EFQM model. Brussels: EFQM.
- Ehiorobo, O.A. (2020). Strategic agility and AI-enabled resource capabilities for business survival in post-COVID-19 global economy. *International Journal of Information Business and Management*, 12(4), 201-213.
- Erande, A.S., & Verma, A.K. (2008). Measuring agility of organizations-A comprehensive agility measurement tool (CAMT). *International Journal of Applied Management and Technology*, 6(3), 31-44.
- Escrig-Tena, A.B., Garcia-Juan, B., & Segarra-Ciprés, M. (2019). Drivers and internalization of the EFQM excellence model. *International Journal of Quality & Reliability Management*, 36(3), 398-419.
- Fadhel, I.E.I., Idrus, S.Z.B.S., Abdullah, M.S.Y., (2020). An integration between information systems engineering and software engineering theories towards engineering a novel instrument and framework of web-based systems success: Results of the pilot test. *Journal of Physics: Conference Series*, 1529, 022007.
- Field, A. (2009). *Discovering statistics using SPSS: Introducing statistical method (3<sup>rd</sup> edition)*. Thousand Oaks, CA: Sage Publications.
- Flake, J.K., & Fried, E.I. (2020). Measurement schmeasurement: Questionable measurement practices and how to avoid them. *Advances in Methods and Practices in Psychological Science*, 3(4), 456-465.
- Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with un-observable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Fried, E.I., & Flake, J.K. (2018). Measurement atters. APS Observer, 31(3).
- Faems, D. (2008). Open innovation: Researching a new paradigm. *Creativity and Innovation Management*, 17(4), 334–335.
- Ghannajeh, A.M., AlShurideh, M., Zu'bi, M.F., Abuhamad, A., Rumman, G.A., ... & Akhorshaideh, A.H.O. (2015). A qualitative analysis of product innovation in Jordan's pharmaceutical sector. *European Scientific Journal*, 11(4), 474-503.
- Ghazal, T.M., Hasan, M.K., Alshurideh, M.T., Alzoubi, H.M., Ahmad, M., ... & Akour, I.A. (2021). IoT for Smart Cities: Machine learning approaches in smart healthcare—A review. *Future Internet*, *13*(8), 1-19.
- Gerloff, E.A. (1985). Organizational theory and design: A strategic approach for management. New York, NY: McGraw-Hill.
- Gliem, J., & Gliem, R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Paper presented at the 2003 Midwest Research to Practice Conference in Adult, Continuing and Community Education, the Ohio State University, Columbus, Ohio.
- Gunasekaran, A., & Yusuf, Y.Y. (2002). Agile manufacturing: A taxonomy of strategic and technological imperatives. *International Journal of Production Research*, 40(6), 1357-1385.
- Guo, K.L. (2020). DECIDE: A decision-making model for more effective decision making by health care managers. *The Health Care Manager*, *39*(3), 133-141.
- Hafeez, M.H., Basheer, M.F., Rafique, M., & Siddiqui, S.H. (2018). Exploring the links between TQM practices, business innovativeness and firm performance: An emerging market perspective. *Pakistan Journal of Social Sciences (PJSS)*, 38(2), 485-500.
- Harahsheh, A.A., Houssien, A.A., Alshurideh, M.T., & AlMontaser, M. (2021). The effect of coronavirus disease (covid-19). *Business Intelligence*, 334, 243-221.

- Harraf, A., Wanasika, I., Tate, K., & Talbott, K. (2015). Organizational agility. *Journal of Applied Business Research (JABR)*, 31(2), 675-686.
- Hastie, T., Tibshirani, R., & Friedman, J. (2009). *The elements of statistical learning: Data mining, inference, and prediction*. Springer Science & Business Media.
- Hayajneh, N., Suifan, T., Obeidat, B., Abuhashesh, M., Alshurideh, M., & Masa'deh, R. (2021). The relationship between organizational changes and job satisfaction through the mediating role of job stress in the Jordanian telecommunication sector. *Management Science Letters*, 11(1), 315-326.
- Hesselbein, F., & Johnston, R. (2002). On mission and leadership: A leader to leader guide. U.S.A.
- Jaworski, B.J., & Kohli, A.K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(3), 52-70.
- Kandula, S. (2002). Strategic human resource development. Meenakshi Printers, Delhi.
- Kanji, G.K. (2005). Forces of excellence in Kanji's business excellence model. *Total Quality Management*, 16(8&9), 259-272.
- Kanji, G.K. (2008). Leadership is prime: How do you measure leadership excellence? *Total Quality Management*, 19(4), 417-427.
- Karimi, S., Atashpour, B., Papi, A., Nouri, R., & Hasanzade, A. (2014). Performance of the libraries in Isfahan University of Medical Sciences based on the EFQM model. *Journal of Education and Health Promotion*, 3(1), 122.
- Ketchen, D.J., & Bergh, D.D. (2004). Research methodology in strategy and management. Bingley, UK: Emerald Group Publishing.
- Lasrado, F., & Kassem, R. (2020). Let's get everyone involved! The effects of transformational leadership and organizational culture on organizational excellence. *International Journal of Quality & Reliability Management*.
- Lasrado, F., & Uzbeck, C. (2017). The excellence quest: A study of business excellence award-winning organizations in UAE. *Benchmarking: An International Journal*, 24(3), 716-734.
- Lee, S.Y., & Brand, J.L. (2005). Effects of control over office workspace on perceptions of the work environment and work outcomes. *Journal of Environmental Psychology*, 25(3), 323-333.
- Liao, S., Liu, Z. & Ma, C. (2019). Direct and configurational paths of open innovation and organisational agility to business model innovation in SMEs. *Technology Analysis & Strategic Management*, 31(10), 1213–1228.
- Mandal, S. (2020). Exploring the impact of healthcare agility and resilience on sustainable healthcare performance: Moderating role of technology orientation. *International Journal of Sustainable Strategic Management*, 8(1), 3-23.
- Menold, N. (2019). How do reverse-keyed items in inventories affect measurement quality and information processing? *Field Methods*, 32(2), 140-158.
- Metaxas, I.N., Chatzoglou, P.D., & Koulouriotis, D.E. (2019). Proposing a new modus operandi for sustainable business excellence: The case of Greek hospitality industry. *Total Quality Management & Business Excellence*, 30(5-6), 499-524.
- Najrani, M. (2016). The endless opportunity of organizational agility. Strategic Direction, 32(3), 37-38.
- Nazir, S., & Pinsonneault, A. (2012). IT and firm agility: An electronic integration perspective. *Journal of the Association for Information Systems*, 13(3), 150-171.
- Nunnally, J.C., & Bernstein, I.H. (1994). Validity. Psychometric Theory, 3, 99-132.
- Obeidat, B.Y. (2016). The effect of strategic orientation on organizational performance: The mediating role of innovation. *International Journal of Communications, Network and System Sciences*, 9(11), 478-505.
- Obeidat, U., Obeidat, B., Alrowwad, A., Alshurideh, M., Masadeh, R., & Abuhashesh, M. (2021). The effect of intellectual capital on competitive advantage: The mediating role of innovation. *Management Science Letters*, 11(4), 1331-1344.
- Odeh, R.B.M., Obeidat, B.Y., Jaradat, M.O., & Alshurideh, M.T. (2021). The transformational leadership role in achieving organizational resilience through adaptive cultures: the case of Dubai service sector. *International Journal of Productivity and Performance Management*.
- Ojha, R., Vij, A., & Vrat, P. (2014). Manufacturing excellence and its critical factors. *Journal of Advances in Management Research*, 11(3), 312-332.
- Nuseir, M.T., Aljumah, A., & Alshurideh, M.T. (2021). How the business intelligence in the new startup performance in UAE during COVID-19: The mediating role of innovativeness. The effect of coronavirus disease (covid-19) on business intelligence, 79-63.
- Overby, E., Bharadwaj, A., & Sambamurthy, V. (2006). Enterprise agility and the enabling role of information technology. *European Journal of Information Systems*, 15(2), 120-131.

- Paraschi, E.P., Georgopoulos, A., & Kaldis, P. (2019). Airport business excellence model: A holistic performance management system. *Tourism Management*, 72, 352-372.
- Park, Y., Sawy, O., & Fiss, P. (2017). The role of business intelligence and communication technologies in organizational agility: A configurational approach. *Journal of the Association for Information Systems*, 18(9), 648-686.
- Patri, R., & Suresh, M. (2019). Agility in healthcare services: A systematic literature exploration. *International Journal of Services and Operations Management*, 32(3), 387-404.
- Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.
- Podsakoff, P.M., MacKenzie, S.B., & Lee, J.Y. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Prado-Prado, J.C., García-Arca, J., Fernández-González, A.J., & Mosteiro-Añón, M. (2020). Increasing competitiveness through the implementation of lean management in healthcare. *International Journal of Environmental Research and Public Health*, 17(14), 1-25.
- Reddy, B., Madhushree, L.M., & Aithal, A. (2020). Blockchain as a disruptive technology in healthcare and financial services-A review based analysis on current implementations. *International Journal of Applied Engineering and Management Letters (IJAEML)*, 4(1), 142-155.
- Sharifi, H., & Zhang, Z. (1999b). A methodology for achieving agility in manufacturing organisations: An introduction. *International Journal of Production Economics*, 62(1–2), 7-22.
- Santos-Vijande, M.L., & Alvarez-Gonzalez, L.I. (2007). TQM and firm's performance: An EFQM excellence model research-based survey. *International Journal of Business Science & Applied Management (IJBSAM)*, 2(2), 21-41.
- Sharifi, H., & Zhang, Z. (1999). A methodology for achieving agility in manufacturing organisations: An introduction. *International Journal of Production Economics*, 62(1–2), 7-22.
- Sherehiy, B., Karwowski, W., & Layer, J.K. (2007). A review of enterprise agility: Concepts, frameworks, and attributes. *International Journal of Industrial Ergonomics*, 37(5), 445-460.
- Sit, W., Ooi, K., & Lin, B. (2009). TQM and customer satisfaction in Malaysia's service sector. *Industrial Management & Data Systems*, 109(7), 957-975.
- Taji, M., Siadat, A., & Hoveida, R. (2016). Identification and ranking of key factors influencing organizational agility implementation on Total Quality Management (TQM) in Universities (case study: Isfahan University of Medical Sciences). *International Business Management*, 10(15), 2814-2822.
- Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, 58(4), 13-35.
- Thomas, J., Clark, S., & Gioia, D. (1993). Strategic sense making and organizational performance: Linkages among scanning, interpretation, action, and outcomes. *The Academy of Management Journal*, *36*(2), 239-270.
- Toma, S.G., & Marinescu, P. (2018). Business excellence models: A comparison. *Proceedings of the International Conference on Business Excellence*, 12(1), 966–974.
- Toma, S.G., & Naruo, S. (2017). Total quality management and business excellence: The best practices at Toyota Motor Corporation. *Amfiteatru Economic Journal*, 19(45), 566-580.
- Wageeh, N.A. (2016). The role of organizational agility in enhancing organizational excellence: A study on telecommunications sector in Egypt. *International Journal of Business and Management*, 11(4), 121-135.
- Wang, A.C. (2019). Developmental or exploitative? How Chinese leaders integrate authoritarianism and benevolence to cultivate subordinates. *Academy of Management Discoveries*, 5(3), 291-313.
- Waswas, D., & Jwaifell, M. (2019). The role of universities' electronic management in achieving organizational excellence: Example of Al Hussein Bin Talal University. *World Journal of Education*, 9(3), 53-66.
- Weijters, B., & Baumgartner, H. (2012). Misresponse to reversed and negated items in surveys: A review. *Journal of Marketing Research*, 49(5), 737-747.
- Weill, P., Subramani, M., & Broadbent, M. (2002). IT infrastructure for strategic agility. SSRN Electronic Journal.
- Yong, A.G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2), 79-94.
- Younas, A., & Porr, C. (2018). A step-by-step approach to developing scales for survey research. *Nurse Researcher*, 26(3), 14-19.
- Zhou, J., Bi, G., Liu, H. (2018). Understanding employee competence, operational IS alignment, and organizational agility—An ambidexterity perspective. *Information & Management*, 55(6), 695-708.
- Zink, K.J. (2008). Human resources and organizational excellence. *Total Quality Management & Business Excellence*, 19(7-8), 793-805.