The transformational leadership role in achieving organizational resilience through adaptive cultures: the case of Dubai service sector

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Abstract

Purpose – This empirical research draws on the existing theory of transformational leadership, adaptive culture and organizational resilience, and investigates the effect of the elected TQM leadership style "transformational leadership" through the mediating effect of adaptive culture on organizational resilience, that is the key of survival during crises like the recent COVID-19 pandemic, which has severely impacted the business globally.

Design/methodology/approach – This study exploited a cross-sectional online questionnaire of a random sample of Dubai service firms, with the unit of analysis being at the firm level. In total, 379 usable responses were received. Regression analysis was conducted to test hypotheses.

Findings – The overall findings of this study supported that transformational leadership is positively associated with both adaptive culture and firm's resilience and significantly impacts them. Adaptive culture was found partially mediating the effect of transformational leadership on organizational resilience.

Practical implications – The research findings provide important insights to practitioners (managers and leaders) to better improve their transformational qualities, as these qualities are expected to improve the organizational adaptive cultures and capacity of resilience.

Originality/value – To the best of the authors' knowledge, this is one of the first studies to examine the transformational leadership effect on organizational adaptive culture and firm's resilience. This investigation expands the boundaries of leadership style theory into new arenas, attempting to partially address the identified knowledge gap in this vein.

Keywords Transformational leadership, Adaptive culture, Organizational resilience, Total,
Quality management

Paper type Research paper

1. Introduction

Organizations are increasingly facing complex world and volatile business environment where the unforeseen is ubiquitous, and surprising events can intensify into disaster most rapidly (Vogus and Sutcliffe, 2007). Disasters and pandemics like the COVID-19 pandemic which swept the world in no time, with the first case reported in December 2019, and the declaration of the disease as pandemic on March 11, 2020 (WHO, 2020), have significant impact on businesses. A brief by McKinsey and Company (2020) revealed that "between 1.4 million and 2.1 million US small businesses could close permanently as a result of the first four months of the pandemic." In the same direction of argument, the World Bank expected a contraction in the UAE economy due to the disrupted engines of growth from COVID-19 pandemic containment efforts (World Bank, 2020). Certain sectors are particularly at risk. According to McKinsey & Co. service sector is more vulnerable to these risks during health and economic crises.

Despite the proactive steps taken by the UAE government to mitigate the pandemic's influence on business, yet, many business sectors suffered drastically, "Businesses are understandably struggling during these difficult times, however we are seeing that those that actually walk the talk in terms of their values, had risk management in place, are agile and have already started to change the way they do business, along with the support of the government, are already showing positive signs of survival" (Kazemi, 2020). Organizations play a major role in the sustainability of the economy. They provide services to consumers, employment opportunities for workforce and drain cash flow to markets. This has made organization's ability to survive and maintain its operations during crisis a significant factor in the recovery of the wider community after disaster (McManus et al., 2008). In Dubai, service organizations contribute in about (47%) of the gross value added of the economy, and (58%) contribution to employment (Dubai SME, 2018).

To survive, organizations need to adapt and respond to these sudden shocks (Herbane, 2018), organizations need to see the opportunities hiding beneath (Costanza et al., 2015), and this requires a main transformation into learning organizations, which is fundamentally different from the standardized, traditionally centralized, and formalized hierarchal structures, which are grounded on fear (Fry, 2003). This is also required as a response to the global transformation of the economy, which is shifting from manufacturing and production into a knowledge-based economy (Nurunnabi, 2017). In this context, leadership is the key.

According to Kanji (2008), "Leadership is not just one more criterion; it is the prime aspect of the business model, showing that leadership is responsible for driving the organization in every area towards quality and excellence" (p. 421). Effective leadership begins with a clear vision; well-developed strategies; strong beliefs and agreed objectives; supported by suitable structure; and empowered employees who are willing and motivated to effectively participate (Oakland, 2011). According to Chen et al. (2018) alongside with Omar (2017), transformational leadership style is best fit for these requirements.

Transformational leaders qualities has a great impact on organizations in relation to: improving employees wellbeing and self-efficacy (Chen et al., 2018); coping with external environment dynamics (Soliman, 2018); inspiring a vision for change (Waldman, 1993); igniting intellectual stimulation (Bass, 1990); building trust and reduce fear through a culture which supports change (Sosik and Dionne, 1997). Transformational leaders work in the existing organizational cultures with an objective to change them into more adaptive ones; they endorse an environment which nurtures high-goal achievement, personal development and self-actualization (Xenikou and Simosi, 2006). Such cultures, with high adaptation capacity, is a mechanism by which organizations deal with change and absorb shocks (Costanza et al., 2015). Leadership as an organizational process is rarely mentioned in resilience research (Andersson et al., 2019). Research deliberately addressing how leadership

styles contribute to organizational resilience are not found (Besuner, 2017). Somers (2009) contended that comprehensive research was conducted focusing on leadership styles; yet, limited knowledge on how they affect organizational resilience is available.

According to Bhat *et al.* (2013) there is a gap regarding the absence of attention paid to the role of organizational culture as a mediator on organizational capabilities? It has been suggested that the study of organizational culture and leadership is critical in the understanding and forecasting of organizational effectiveness (Elshanti, 2017). Xenikou and Simosi (2006) claimed the insufficiency of empirical research exploring the relation among leadership and culture along with their combined impact on organizational outcomes. Sommer *et al.* (2016) assured that empirical research carried out during real crisis time is fairly rare. According to Herbane (2018), resilience is becoming more interestingly appealing, to evaluate the impact of leadership on organizational resilience and the mediating role adaptive culture plays, where organizational resilience is a must during such times of crisis to survive. Thus, we are aiming through this research paper, to extend the existing knowledge on (transformational leadership, organizational resilience and adaptive culture) theories, by empirically investigating the role of transformational leadership in maintaining organizational resilience during crisis (COVID-19 Pandemic) through the mediating effect of adaptive culture, in an attempt to partially bridge the previously mentioned gaps.

The coming section of this paper discusses the subject's theoretical background, then we move to illustrate the adopted methodology of investigation. In the following sections, analysis, results, discussion and conclusion are respectively conferred. The penultimate section provides an overview of the expected research and practical implications, and finally closing the paper with the limitations and suggestions for future research.

2. Literature review

2.1 Leadership

Leadership has been a topic of interest for thousands of years (back into ancient Greek, Latin and Chinese classics), but it has not been a topic of research until the 20th century (Fry, 2003; Kanji and Moura E Sá, 2001). Leadership as a research topic went into different themes overtime, Kanji (2008) in line with many other researchers (e.g. Horner, 1997; Fry, 2003; Kanji and Moura E Sá, 2001; Lakshman, 2006) summarized these research themes in three main categories: traits, behaviors and contingencies research approaches.

Traits approach of leadership focuses on the attributes of great leaders, under the idea suggested by Horner (1997) "Leaders are born, not made." The second approach of behavioral leadership has discussed what effective leaders do, rather than how they are seen by others. The behavioral approach discussed the function of leadership and its styles (Kanji, 2008). The behavioral studies of leadership looked at the leaders in their organizational context, categorizing their behaviors (which can be taught to people) that increase the organizational effectiveness (Horner, 1997). Contingency approach, the third wave of research, where the three main ingredients of leadership research were interacting (traits, behaviors and context/situation) made the assumption that leadership success is contingent on the effects of these variables and the proper interaction among them (Horner, 1997).

According to Fry (2003), the research on leadership has moved more towards strategic leadership, which overemphasized the importance of vision, its role in motivating people, and controlling through organizational values and adaptive cultures. While Uhl-Bien *et al.* (2007) argued that leadership approaches during the last century are a top-down bureaucratic paradigms which are more suitable for product-based era rather than knowledge-based economy, Lakshman (2006) argued that these approaches did not focus on the role of leaders as managers of quality, they instead focused on leadership as a main managerial role. Kanji and Moura E Sá (2001) contended that these approaches are insightful, but suffer limitations, while being considered collectively; they provide a multifaceted theory of leadership.

Bass (1985) claimed that leadership definitions are as many as the number of researchers who tried to define them (Table 1). Table 1 offers few of these definitions.

As obvious as it looks in (Table 1), defining leadership in terms of a "person" might not be the right way due to its high association with workforce. Observing leadership in terms of a "process" offers an improved fit, so leaders are seen as a part of an organizational culture where they highly interact with their followers (Horner, 1997). This later emphasis on interaction between leaders and their followers is perceived as an advantage in leadership research (Kanji and Moura E Sá, 2001).

2.2 Total quality management (TQM)

TQM is an organization wide approach to improve its flexibility, effectiveness, efficiency and competitiveness (Oakland, 2011). It is a factor connecting the interior and exterior aspects of the organization (Chen *et al.*, 2018; Puffer and McCarthy, 1996). Kumar and Sharma (2018), in line with other researchers (e.g. Chen *et al.*, 2018; Waldman, 1993), had a more specific approach in defining TQM. They consider it as an organization wide philosophy focused on improving customer satisfaction through high performance (better productivity, less cost and improved service/product reliability) along with optimum consumption of available resources.

TQM improves the organizational competitive position through evocative participation of all employees at all levels in accomplishing the organizational mission and executing business processes which eventually reflects in a competitive advantage for the organization (Chen *et al.*, 2018; Mustafa and Bon, 2012; Oakland, 2011; Puffer and McCarthy, 1996). TQM is based on process continuous improvement, and its effective implementation depends fundamentally on: organization wide participation and involvement; the commitment of the top management; and the presence of leadership (Chen *et al.*, 2018; Oakland, 2011). Savolainen (2000) contended that business excellence can be attained through the successful adoption of TQM, which requires a major organizational cultural change that is managed through proper

Research	Definition
Waldman (1993), (p. 76)	"Leadership is a process that occurs within the context of an organizational culture. Culture may restrict the emergence of leadership behavior oriented toward the change, development, and degree of risk associated with TQM"
Puffer and McCarthy (1996), (p. 111)	"Traditionally, leadership has been defined in terms of personality traits, behaviors, influence exercised over other people, patterns of interaction with others, roles played, and authority derived from a formal administrative position"
Horner (1997), (p. 270)	"Leadership, then, is not only the process and activity of the person who is in a leadership position, but also encompasses the environment this leader creates and how this leader responds to the surroundings, as well as the particular skills and activities of the people being led"
Kanji & Moura E Sá (2001), (p. 701)	"A process whereby an individual influences a group of individuals to achieve a common goal"
Fry (2003), (p. 697)	"Leadership is the art of mobilizing others to want to struggle for shared aspirations"
Uhl-Bien *et al.* (2007), (p. 299)	"Leadership should be seen not only as position and authority but also as an emergent, interactive dynamic – a complex interplay from which a collective impetus for action and change emerges when heterogeneous agents interact in networks in ways that produce new patterns of behavior or new modes of operating"
Kumar and Sharma (2018), (p. 1065)	"Leadership is a process which holds the entire employees for achieving a particular task or goal and influence their behavior or actions on others"

Table 1.
Transformational
leadership definitions

planning and visionary leadership. Leadership has always been considered a main driver toward the success of TQM adoption (Omar, 2017).

2.3 Leadership in TQM context

Although leadership, as a main pillar of TQM adoption and implementation success, is a consensus throughout the literature (e.g. Ng *et al.*, 2013; Mustafa and Bon, 2012), the style of this leadership remains an ever-ending debate. Fry (2003) thought that spiritual leadership better meets the basic needs of "spiritual survival" of followers as well as leaders, which makes them more productive and committed to the organization. Ng *et al.* (2013) stated that nurturing teamwork, sustaining performance and improving TQM practices can be potentially supported by a mix of leadership styles, but in TQM context, Puffer and McCarthy (1996) argued that visionary leadership is more important as TQM success depends significantly on the collectivity of employees with a shared vision being inspired by a visionary leader. Kanji (2008) voted for participative style as it allows for those who are closely related to the processes to participate in its continuous improvement. Savolainen (2000) argued that two leadership strategies are fitted in TQM context, the "coaching" and the "expertise" strategies of leadership. Soliman (2018) found that charismatic leadership has the strongest effect on TQM implementation, which is considered by Bass (1985) as one of the most important qualities in transformational leaders. Other researchers like (Chen *et al.*, 2018; Cho and Jung, 2017; Jung *et al.*, 2003; Kumar and Sharma, 2018; Lakshman, 2006; Omar, 2017; Sosik and Dionne, 1997; Waldman, 1993; Zairi, 1994) found the transformational leadership is best conducive in TQM context.

According to Chen *et al.* (2018), leadership in TQM context is not power-based, rather more focused on empowering, recognizing, developing and coaching people to satisfy their customers and attain a sustained competitive advantage. Waldman (1993) confirmed that transformational leaders maintain a long-term vision, stress the importance of learning to develop individuals, take risk and foster common vision built on strong values. Transformational leaders are more capable of achieving their organizational mission which concentrates on services and customers instead of internal control systems.

2.4 Transformational leadership effect

Bass (1985) explained that transformational leaders are in continuous research for new ways to satisfy their followers' higher-order needs to motivate and engage them in the work process. Transformational leaders are remarkable for initiating change and coping with it, they re-invent the old into new. These leaders help others and organizations to grow while they personally evolve. Table 2 summarizes the views of researchers on transformational leadership traits and effects.

Rafferty and Griffin (2004) discussed transformational leadership in terms of three main elements based on (Bass, 1985):

(1) Being an agent for change, through an "inspiring vision" which inspires people to work hard through the painful change journey to achieve the idealized picture of the future.

(2) Igniting the "intellectual stimulation" of people to think about various scientific and problem-solving techniques. "Intellectual stimulation" improves people's awareness of challenges, and enhances their capabilities and tendency towards rethinking old problems in new manner.

(3) "inspirational motivation" of followers when leaders visualize an alluring future, articulate how to get there, set a role model for others, set high performance standards, and display determination and self-confidence.

Research	Traits	Effects
Waldman (1993)	Traits – transformational leadership stimulate change, provide inspiring vision, help people work through the discomfort of change. They ignite intellectual stimulation of their followers to find new ideas. They adopt recognition as a strategy	Effects – create a shared vision among followers which enhances the performance towards achieving common goals and serve to further improve employee empowerment
Sosik and Dionne (1997)	Traits – transformational leaders form a relationship of communal stimulation, build trust and eliminate fear, create sense of awareness for change, develop a culture to support it, add value through continuous improvement, struggle to develop followers and initiate new problem-solving strategies	Effect – an organizational environment characterized by change agency, continuous improvement and trust building is fostered
Omar (2017)	Traits – transformational leaders use their idealized influence to model a commitment towards quality, they use inspirational motivation to communicate the business philosophy and success stories, they will use intellectual stimulation to impact quality management	Effects – creativity and innovation, which are vital aspects of quality management, are invigorated with training, leadership and mentoring, education, and the elimination of communication barriers
Chen et al. (2018)	Traits – transformational leadership emphasizes the symbolic behavior of a leader like inspirational, visionary messages and values. They focus employee's attention on long-term goals, instill a sense of higher purpose in them. They can inspire followers to change expectations, perceptions, and influence the team environment, encourage subordinates to work for the common goal	Effects – improved well-being, self-efficacy, creativity, job satisfaction, reduced burnout, emotional exhaustion and stress Successfully implemented strategies help to achieve superior performance, promote sustainable performance via TQM, and strengthen the effects of the TQM on organizational outcomes

Table 2.
Transformational
leadership traits and
effects

Cho and Jung (2017) argued that leadership style which is most effective for TQM successful implementation is contingent on the culture of the organization. Waldman (1993) discussed earlier the impact of organizational culture, which places limits on the emerging leadership styles, that increasingly and steadily influence and got influenced by the organizational culture. Horner (1997) stated that managing culture needs a special capability of leaders to understand it, and then, change it to meet the organizational vision, improve its flexibility, and make it more focused on empowering employees and nurturing autonomy.

2.5 Organizational culture, an adaptive culture
Organizational culture was found through research to be related to performance and important organizational outcomes (Denison, 1990; Denison and Mishra, 1995; Marcoulides and Heck, 1993; Xenikou and Simosi, 2006). Verdu-Jover et al. (2018) discussed organizational culture through two aspects, the stability aspect, where organizational culture is perceived as a "relatively stable, enduring set of values, beliefs, assumptions, and symbols shared in the organization" (p. 330), and once more as a dynamic system that is "constantly receiving environmental pressures requiring continuous adaptation" (p. 330). So, culture from the second point of view has an intrinsic characteristic of change. Those cultures with capacity to adapt with change are known as "adaptive cultures."

Xenikou and Simosi (2006) similarly conferred two orientations of organizational culture, one is the "humanistic orientation" replicating the "human relations movement" (p. 567) at work, and the second is the "achievement orientation" which reflects "assumptions, values and practices on task organization, goal setting, organizational objectives, experimentation,

and an emphasis put on being effective" (p. 568). Table 3 offers few definitions of culture concept in general and adaptive culture more specifically.

Costanza *et al.* (2015) defined organizations with adaptive culture in terms of eight distinguishing factors, which are: external focus to adapt with experimentation environment; anticipation to foresee future trends and anticipate change; openness to change; taking risk in response to change; confidence in their ability to cope with change; developing capabilities to address changes and future challenges; collaborative action to work as one unit in planning and developing solutions; and finally, executing and sustaining change.

Denison and Mishra (1995) found that organizations with cultures that nurture participation, autonomy and creativity performed better than others, these cultures are attainable through TQM adoption (Puffer and McCarthy, 1996), led by transformational leaders (Chen *et al.*, 2018; Cho and Jung, 2017; Jung *et al.*, 2003; Kumar and Sharma, 2018; Lakshman, 2006; Omar, 2017; Sosik and Dionne, 1997; Waldman, 1993; Zairi, 1994). Bass and Avolio (1993) contended that culture and leadership are very interrelated to the extent it is conceivable to define organizational culture in terms of transformational qualities. In line, Xenikou and Simosi (2006) recognized a third cultural orientation, based on the culture-performance contingency approach, as a significant predictor of effectiveness, namely "adaptive orientation."

Barney (1986) clarified that effective cultures turn into an adaptation process through empowering people to diagnose external threats and propose resolutions to change quickly. McManus *et al.* (2008) considered "adaptive capacity" as a measure of organizational dynamics and culture which support decision-making in timely manner, during both businesses as usual and crises times as well. When a set of organizational capabilities, procedures, practices, routines and processes are available to support organization's orientation, moving ahead, creating a context of diversity and adaptable amalgamation, we say that this organization has developed "resilience capacity" (Lengnick-Hall *et al.*, 2011).

2.6 Organizational resilience

The resilience concept has arisen in different scientific fields of research. It was discussed with regards to climate change, in respect of social pro-activeness and reactiveness in societies as a whole, and in relation to organic and societal systems (McManus *et al.*, 2008; Somers, 2009). Kantur and İşeri-Say (2012) added the fields of organization studies and engineering, and argued that the term initially was used in child psychology research. According to Prayag *et al.* (2018), organizational resilience has two dimensions – planned and adaptive. Planned resilience should exist before disaster, while adaptive resilience usually arises after disaster. The second dimension necessitates leadership, exterior connections, interior collaboration, and learning capability from previous experiences.

Research	Definition
Verdu-Jover *et al.* (2018) (p. 330)	"Culture is the result of the pressures of the environment"
Barney (1986)	Organizational culture refers to values shared by individuals
Schneider *et al.* (2013) (p. 361)	"Organizational culture is briefly defined as the basic assumptions about the world and the values that guide life in organizations"
Costanza *et al.* (2015)	Adaptive culture is a culture that enables and supports risk-taking and trust, has a shared sense of confidence in solving problems, and is open to innovation
Costanza *et al.* (2015)	"Adaptive organizational culture is a pattern of shared beliefs, values, and behaviors that indicate the organization is aware of and concerned about environmental changes and oriented toward agile and flexible action to address such changes"

Table 3.
Culture/adaptive
culture definitions

Zehir and Narcıkara (2016) discussed two perspectives on the concept of organizational resilience. One perspective describes it in physical science, which views it as the "ability to rebound from unexpected, stressful, adverse situations" (p. 251). The other perspective on resilience includes developing novel capabilities and expanding the organizational abilities to generate and grasp new opportunities. Teo et al. (2017) through their review of crisis literature offered two approaches in theorizing organizational resilience; the first approach proposes a trait-based view of resilience, and the other approach studies resilience as a process of development.

Teo's et al. (2017) second approach views organizational resilience evolution as a response to unexpected impediments, where resilience comes in the form of learning, and organizational survival occurs due to positive adaptation to existing adversity, strengthening its capabilities to withstand any unanticipated challenges. Table (4) summarizes few of resilience definitions as found throughout the literature.

Rothstein and Burke (2010) argued that people are participants in creating their own work experience and career development. Understanding resilient individuals is a step forward in

Research	Definition
Vogus and Sutcliffe (2007) (p. 3418)	"The maintenance of positive adjustment under challenging conditions such that the organization emerges from those conditions strengthened and more resourceful"
McManus et al. (2008) (p. 82)	"Resilience is a function of an organization's overall situation awareness, management of keystone vulnerabilities, and adaptive capacity in a complex, dynamic, and interconnected environment"
Lengnick-Hall et al. (2011) (p. 244)	"Organizational resilience as an important factor enabling a firm to leverage its resources and capabilities not only to resolve current dilemmas but to exploit opportunities and build a successful future"
Kantur and Isri-Sai (2012) (p. 764)	"Resilience implies pre-event readiness for a disruptive event, post-event response for appropriate and timely recovery, and creative renewal capacity through improvisation"
Moran and Tame (2012) (p. 233)	"Resilience is defined as the ability to adapt effectively and efficiently to change; apply lessons learned from challenges, mistakes and/or successes to future situations; and ultimately, to grow and thrive"
Ortiz-De-Mandojana and Bansal (2015)	". . . organizational resilience, . . ., as the incremental capacity of an organization to anticipate and adjust to the environment. It is a path-dependent, latent set of capabilities that organizations develop by noticing and correcting for maladaptive tendencies that help them to cope with unexpected circumstances"
Zehir and Narcıkara (2016) (p. 251)	"In organization theory, resilience refers to (1) the ability to absorb strain and preserve functioning despite the presence of adversity or (2) the ability to recover or bounce back from untoward events"
Annarelli and Nonino (2016)	"Organizational resilience is the organization's capability to face disruptions and unexpected events in advance and a linked operational management of internal and external shocks"
Southwick et al. (2017) (p. 315)	"Resilience can be defined as the ability to regain balance following exposure to an adverse event or events. Resilience is not an end state of being, but rather a process of adaptation and growth within a risky landscape"
Herbane (2018) (p. 3)	"Resilience is an adaptive process and capacity of an organization to address major acute and strategic challenges through responsiveness and reinvention to achieve organizational renewal"
Suryaningtyas et al. (2019)	"According to the British standard, BS65000 (2014), organizational resilience is defined as the organizational ability to anticipate, prepare and respond as well as adjust for ever-increasing changes due to sudden disturbances in order to survive and be good or prosperous"

Table 4.
Organizational
resilience definitions

defining organizational resilience, where the interactions of the individuals along with their actions supports the development of an organizational capacity of resilience (Lengnick-Hall *et al.*, 2011). So, a resilient organization needs resilient individuals who are inspirited, provided with necessary capabilities through professional development, aided with needed resources to react and adjust organization wide (Moran and Tame, 2012), well-empowered to make good decisions without approvals and in timely manner, able to design and device adaptive behaviors corresponding to the instantaneous situation (Mallak, 1998), and skilled enough to absorb the change and see the residing opportunity in it (Kantur and İşeri-Say, 2012).

2.7 Hypotheses development

According to Bass (1985), transformational leaders work in existing culture as it is, but they are in continuous effort to change it in alignment with the environmental and organizational needs, so, where leaders are evaluated as transformational, organizational culture is mostly found to be adaptive (Block, 2003). In dynamic environments, an adaptive culture plays a major role in dealing with change (Costanza *et al.*, 2015), and cultures that support organizational adaption with volatile environment only support long-term better performance (Gordon and DiTomasi, 1992), that organizations with highly adaptive cultures have higher potential to survive (Costanza *et al.*, 2015), where these adaptive cultures are shaped by the transformational leaders (Waldman and Yammarino, 1999; Xenikou and Simosi, 2006), Therefore, we hypothesize that:

H1. Transformational leadership positively impacts adaptive culture.

During crisis, effective leadership has a critical role in practicing social influence over the people (Sommer *et al.*, 2016; Teo *et al.*, 2017) to overcome hard times and orient the organization toward superior performance and manage the change successfully (Suryaningtyas *et al.*, 2019). Zehir and Narcıkara (2016) argued that at organizational level, a resilient leadership is a requirement of organizational resilience. Solid leadership which endorses consistent and co-dependent teams is a significant component of organizational resilience (Southwick *et al.*, 2017). During crisis times, leaders should be able to early recognize the situation, create a sense of what should be done, make serious decisions, coordinate in vertical and horizontal directions, create a meaning for the followers out of the situation, communicate their message, clarify responsibilities and most importantly learn throughout this experience to enhance resilience (Boin *et al.*, 2013).

Sommer *et al.* (2016) provided evidence on transformational leadership being most impactful to activate optimistic emotional states among people and teams, where these positive emotions are basic in building organizational resilience. Southwick *et al.* (2017) maintained that in resilient organizations, leaders are continually supporting the organization's mission; they visualize it positively, communicate it effectively with a definite plan, and encourage their followers to be committed for the course of action. This results in a higher commitment which enhances the ability to tolerate for uncertainty and to face it fiercely. Sommer *et al.* (2016) stated that extensive research on Bass's (1985) leadership styles was conducted, yet, limited knowledge about how they impact resilience is available.

Transformational leadership are able to make quick changes and adjustments in the organizational systems to meet the changes in the external environment (Suryaningtyas *et al.*, 2019). The behaviors of transformational leaders including (idealized influence through articulating vision, inspirational motivation and intellectual stimulation) elevate people's interest beyond their self-interests, and motivate them to adopt new shared vision, which plays a major role in improving firm's resilience (Sommer *et al.*, 2016).

Some intellectual factors within organizations, such as: fostering positive, productive conceptual direction through defining the organizational purpose, values, and shared vision;

and, sense making of the purpose, values and vision, allows the organization and people to understand and deliver a meaning to unusual events and conditions, thus, participate in creating organizational resilience (Lengnick-Hall *et al.*, 2011). These factors are mainly provided through transformational leaders (Bass, 1985). Leadership style is an important factor in determining people's attitudes during crisis as well as organizational performance (Teo *et al.*, 2017), and transformational leadership communicates determination, articulate a mission and a clear vision, show high expectations of performance (Waldman *et al.*, 2001), Thus, and based on the above arguments, we hypothesize that:

H2. Transformational leadership positively impacts organizational resilience.

Resilient leadership and organizational culture play a strong mediating role between organizational resilience and performance (Suryaningtyas *et al.*, 2019). The concept of adaptive culture, where leaders and people view the crisis from an opportunistic point of view, is a significant factor of determining organizational resilience (McManus *et al.*, 2008). Lengnick-Hall *et al.* (2011) discussed that organizational resilience is rooted in the expertise, capabilities and knowledge of the people, and in the organizational routines and procedures that is used to guide the organization and move it ahead, and creates diversity and integration, which allows it to conquer and defeat the outcomes of any disruptive surprises. Lim (1995) contended that culture plays the role of a filter through which variables (e.g. leadership) impact organizational performance. In organizations where the culture is featured with a clear vision and mission, committed and enthusiastic people, enhanced sense of autonomy, led by leaders who can sense and utilize their organizational strengths to overcome sudden challenges, are more able to overcome diversity and improve resilience (Southwick *et al.*, 2017). Thus, we hypothesis:

H3. Adaptive culture positively impacts organizational resilience.

Although there are little empirical studies which investigated the mediating effect of organizational culture on the relation between "transformational leadership styles" and "organizational capabilities", little empirical evidence addressing its mediating impact on the relationship between leadership and organizational performance was revealed (Elshanti, 2017). Ogbonna and Harris (2000) found that participative and supportive leadership were positively linked to performance through innovative and competitive cultures. Additionally, Xenikou and Simosi (2006) suggested that the link between transformational style and performance is mediated by the organizational culture. Hosseini *et al.* (2020) research results showed that organizational culture significantly mediated in the relationship between leadership style and organizational learning. Based on the previous observations, the following hypothesis was formulated:

H4. Adaptive culture mediates the relation between transformational leadership and organizational resilience.

Figure 1 summarizes the research conceptual framework.

3. Methodology
3.1 Research context
This deductive, cross-sectional quantitative research, utilizing survey strategy, was conducted to investigate the impact of transformational leadership on organizational resilience in service sector organizations operating in the Emirate of Dubai during the time of COVID-19 pandemic which has affected the business globally. According to (Buckley and Majumdar, 2018) "Services, with their rising importance in the global economy alongside manufacturing, are becoming more vital in many countries' economic growth." Service sector

Transformational Leadership

Organizational Resilience

Figure 1.
Research
conceptual model
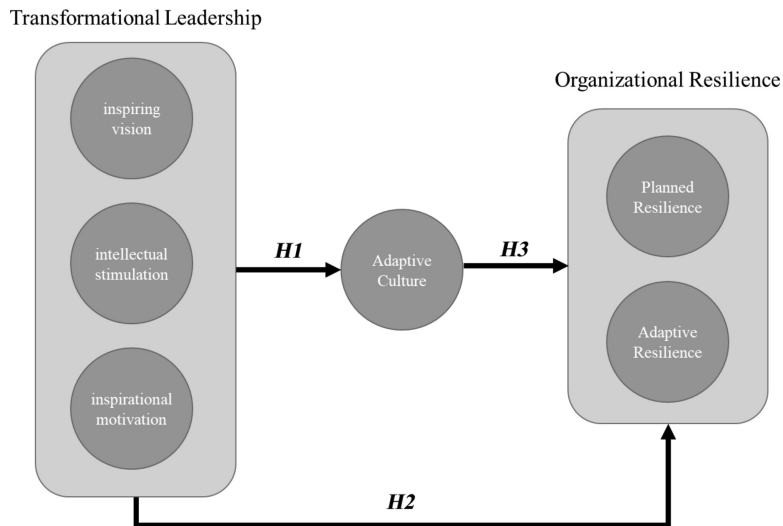
is a significant contributor to the GDP of the Dubai Emirate specifically, and the United Arab Emirates more generally, as it contributes to almost 60% of the nation's GDP (MOE, 2019). Thus, it has gained an increased attention by the government. UAE struggles to sustain a benevolent investment atmosphere in line with its competitive approach to development through crafting policies and strategies to enable economic transformation of the country by leveraging the national competitive advantage through becoming more knowledge-based, innovative and (R&D) focused, supporting value-creation sectors (FCSA, 2020). Despite its significance, this area of research within the GCC region, and, UAE context more specifically is under-explored. Consequently, it becomes more appealing to investigate the impact of the Covid-19 pandemic in such a proactive and dynamic service industry, where more than one hundred thousand firms are registered under service providers' category, with a major contribution in the local economic development.

3.2 Population and sample

In this investigation, service sector firms (including: public administration, professional, scientific, technical and support services providers) operating in the emirate of Dubai were targeted for data collection. The unit of observation was the workforce of the identified organizations including (workers, middle and senior managers) to capture their views on their transformational leadership, adaptive cultures and organizational resilience to generate insights at the organizational level (as a unit of analysis). This strategy is sought to improve number of respondents, and enrich the insights of the investigation.

The sampling frame was obtained from an open source governmental platform (Dubai Pulse) providing data on the registered service organizations operating in the emirate of Dubai. Simple random sampling technique was adopted to attain the observation cases who were then contacted via their organizational contact details or social media platforms (as available). For sample size, we substituted in the Cohen's formula ($n = p\% \times q\% \times (z/e\%)$), where: n is the minimum sample size required; $p\%$ is the percentage belonging to the specified category (50% according to (Krejcie and Morgan, 1970), as this proportion will produce the maximum variance and the maximum sample size of the population), $q\%$ is the percentage not belonging to the specified category ($1-p\%$), z is the z value corresponding to the level of

confidence (95%) required ($z = 1.96$), and $e\%$ is the margin of error accepted (5%), sample size is (384 organization). Questionnaire was sent to (1,280 organization) with an expectation of (30% as response rate).

The researcher received (415) completed responses, which makes (32.4% response rate). After data screening, (39 responses) were identified as invalid which decreased the number of useable responses to (379). The sample demographics are given in Table 5.

As it is shown in Table 5, the sample is made up of (36.7% females and 63.3% males). Respondents age was concentrated in the (25–34; 35–44; 45–54) categories (33.2; 36.9; 24.3%) respectively, which is equivalent to (94.4%) of the whole sample. In fact, this makes sense as the targeted groups are working people, where you rarely find (60+) workers due to ministry of labor restrictions on hiring or maintaining workers above (60 years). 64.6% of the respondents are Bachelor degree holders, while the next highest category is Master's degree holders (27.4) equivalent to (89.3%) of the sample. Most of them are Arab expats (51.7%) and Emirati citizens (36.4%), equivalent to total of (88.1%) of the sample. 42.5% are employees, (20.3%) are team leaders, (21.6%) are middle managers, (9%) are senior managers and (5%) are managing directors, representing a reasonable distribution of respondents over categories.

3.3 Data collection tool

The data collection tool (the questionnaire) was developed based on previous studies, and employed validated scales as will be discussed in the next section. It was prepared electronically using the tool provided by (Monkey Survey). An electronic link was distributed over emails and social media platforms to targeted cases. A practical definition of transformational leadership, adaptive culture and firm's resilience were provided at the beginning of the survey, so as to align the understanding of the respondents with the research main concepts. This empirical cross-sectional research data was collected between early May 2020, and June 2020. Participants were guaranteed of the anonymity of their responses.

Each respondent rated the transformational leadership, adaptive culture and firm's resilience on a seven-point Likert scale ranging from (1 – strongly disagree) to (7 – strongly agree). Seven-point measure is to some extent better than five-point scales. The psychometric literature endorses extra scale points to measure opinions and an attitudes; nevertheless, this vanishes after 11 points (Nunnally, 1978). "Having seven points tends to be a good balance between having enough points of discrimination without having to maintain too many response options" (Sauro, 2010).

Serious measures were taken by the researchers to reduce the chance of any survey bias. Validated measures which prove valid and reliable in previous studies were adopted. To reduce sampling bias, participants, who should be working in service sector (as indicated earlier) were randomly selected and contacted through the network initiated by the researcher via their organizational contact ID or through social media platforms, and left for their complete willingness to share their opinions. A test of late response bias was conducted among the two waves of respondents (early respondents of May, and late respondents of June) (Armstrong and Overton, 1977), a comparison between the two groups, showed no significant differences, supporting the assumption that respondents were not different from non-respondents. According to Kamakura (2010), method biases are critical issue, being one of the most common sources of errors in measurement that disturbs the validity of results. It is a serious issue that might results in incorrect correlations caused by the instrument. Using Podsakoff et al.'s (2003) described method, the analysis of the non-rotated component matrix indicates that no general factor is apparent to be responsible for most variance explained. A single factor explains 38.363% of total variance, which is below the threshold of 50% (Podsakoff et al., 2003), indicating no concern of CMB.

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	N	Minimum	Maximum	Mean	SD
Descriptive Statistics					
Gender of respondent	379	1	2	1.63	0.483
Age of respondent	379	1	6	2.95	0.900
Education level of respondent	379	1	4	2.31	0.610
Nationality of respondent	379	1	6	1.91	1.084
Business activity of respondent	379	1	5	2.98	1.834
Respondent job role	379	1	7	4.11	1.243
Valid *N* (list wise)	379				

Gender of respondents	Frequency	Percent	Valid percent	Cumulative percent
Female	139	36.7	36.7	36.7
Male	240	63.3	63.3	100.0

Age of respondents	Frequency	Percent	Valid percent	Cumulative percent
18 to 24	7	1.8	1.8	1.8
25 to 34	126	33.2	33.2	35.1
35 to 44	140	36.9	36.9	72.0
45 to 54	92	24.3	24.3	96.3
55 to 64	13	3.4	3.4	99.7

Education level of respondents	Frequency	Percent	Valid percent	Cumulative percent
High school	16	4.2	4.2	4.2
Bachelor	245	64.6	64.6	68.9
Masters	104	27.4	27.4	96.3
PhD	14	3.7	3.7	100.0

Nationality of respondents	Frequency	Percent	Valid percent	Cumulative percent
Emirati	138	36.4	36.4	36.4
Arab-resident	196	51.7	51.7	88.1
Asian-resident	19	5.0	5.0	93.1
European-resident	7	1.8	1.8	95.0
American-resident	6	1.6	1.6	96.6
African-resident	13	3.4	3.4	100.0
Emirati	138	36.4	36.4	36.4

Job role of respondent	Frequency	Percent	Valid percent	Cumulative percent
Intern	3	0.8	0.8	1.1
Employee	161	42.5	42.5	43.5
Team lead	77	20.3	20.3	63.9
Manager	82	21.6	21.6	85.5
Senior manager	34	9.0	9.0	94.5
Others	1	0.3	0.3	0.3
Managing director	21	5.5	5.5	100.0

Table 5.
Demographic
descriptors

3.4 Measures
Each of the three research constructs were measured using reflective indicators, where the *transformational leadership* was measured using three reflective variables (inspiring vision, intellectual stimulation and inspirational motivation) with nine items developed by Rafferty and Griffin (2004) (inspiring vision was reflected using three items: our leadership has a clear understanding of where we are going, our leadership has a clear sense of where he/she wants to be in five years, our leadership has no idea where the organization is going (reversed question); intellectual stimulation was measured using another three items: our leadership says things that make employees proud to be a part of this organization, our leadership says positive things about the work unit, our leadership encourages people to see changing environments as situations full of opportunities; and inspirational motivation was reflected via three additional items: our leadership challenges me to think about old problems in new ways, our leadership has ideas that have forced me to rethink some things that I have never questioned before, our leadership has challenged me to rethink some of my basic assumptions about my work). *Adaptive culture* was measured using eight reflective items developed by Costanza *et al.* (2015): our organization gets an outside viewpoint in order to identify and understand a problem; our organization anticipates a large market demand for a new product; our organization dedicated to improving existing products, even successful ones, and developing new ones; our organization believes the future of the organization is limitless; our organization develops a training program or apprenticeship program to teach employees new, critical skills to deal with future needs; our organization conducts intraorganizational research to determine how to make a product distinctive in the industry; our organization implements new work process ahead of schedule and under budget; our organization works with external entities to enact policies that benefit them in the long run. Finally, organizational resilience was measured through two reflective dimensions (planned resilience and adaptive resilience) using ten items developed by Prayag *et al.* (2018): planned resilience was measured using five items: given how others depend on us, the way we plan for the unexpected is appropriate; our organization is committed to practicing and testing its emergency plans to ensure they are effective; we have a focus on being able to respond to the unexpected; we have clearly defined priorities for what is important during and after a crisis; we proactively monitor our industry to have an early warning of emerging issues. Adaptive resilience was measured using additional five items: our organization maintains sufficient resources to absorb some unexpected change; if key people were unavailable, there are always others who could fill their role; there would be good leadership from within our organization if we were struck by a crisis; we are known for our ability to use knowledge in novel ways; we can make tough decisions quickly.

For constructs made up of multiple dimensions, items' mean value was employed to calculate its overall value (Su *et al.*, 2016). A copy of the questionnaire is available in Table 6.

4. Analysis and results
4.1 Reliability and validity
Exploratory factor analysis (EFA), which is a data reduction method that allows the specification of the common latent variables, which underlies the various items (Clossey *et al.*, 2019), was run for the three main research constructs. EFA plays an important role in determining a measure's construct validity (Bond and Fox, 2001). Using (IBM SPSS Statistics 26) software, through dimension reduction technique, the criterion of (eigenvalue > 1) and (factor loading > 0.30) was selected, with extraction method of (principle component method) and (Direct Oblimin rotation). According to the threshold of Hutcheson and Sofroniou (1999) a minimum of (150) for sample size should be achieved (379 in this research).

Transformational leadership (TL) - Rafferty and Griffin (2004, p. 339)

Tl: Vision
Range: Strongly disagree – strongly agree (7-point Likert scale)
(1) our leadership has a clear understanding of where we are going
(2) our leadership has a clear sense of where he/she wants our unit to be in 5 years
(3) our leadership has no idea where the organization is going (R)a
Tl: Inspiring communication
Range: Strongly disagree – strongly agree (seven-point Likert scale)
(1) our leadership says things that make employees proud to be a part of this organization
(2) our leadership says positive things about the work unit
(3) our leadership encourages people to see changing environments as situations full of opportunities
Tl: Intellectual stimulation
Range: Strongly disagree – strongly agree (seven-point Likert scale)
(1) our leadership challenges me to think about old problems in new ways
(2) our leadership has ideas that have forced me to rethink some things that I have never questioned before
(3) our leadership has challenged me to rethink some of my basic assumptions about my work
Adaptive culture- Costanza et al. (2015)
(1) gets an outside viewpoint in order to identify and understand a problem
(2) anticipates a large market demand for a new product
(3) dedicated to improving existing products, even successful ones, and developing new ones
(4) believes the future of the organization is limitless
(5) develops a training program or apprenticeship program to teach employees new, critical skills to deal with future needs
(6) conducts intra-organizational research to determine how to make a product distinctive in the industry
(7) organizations implement new work process ahead of schedule and under budget
(8) the organization works with external entities to enact policies that benefit them in the long run
Firms' resilience (FR)- Prayag et al. (2018)
Planned resilience
Range: Strongly disagree – strongly agree (seven-point Likert scale)
(1) given how others depend on us, the way we plan for the unexpected is appropriate
(2) our organization is committed to practicing and testing its emergency plans to ensure they are effective
(3) we have a focus on being able to respond to the unexpected
(4) we have clearly defined priorities for what is important during and after a crisis
(5) we proactively monitor our industry to have an early warning of emerging issues
Adaptive resilience
Range: Strongly disagree – strongly agree (seven-point Likert scale)
(1) our organization maintains sufficient resources to absorb some unexpected change
(2) if key people were unavailable, there are always others who could fill their role
(3) there would be good leadership from within our organization if we were struck by a crisis
(4) we are known for our ability to use knowledge in novel ways
(5) we can make tough decisions quickly

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's test of sphericity were employed to check for the suitability of the data for factor analysis. The analysis results (Table 7) indicate a very good KMO value greater than the recommended value of 0.5 (Field, 2009), supporting a pattern of correlations in the data. Besides, Bartlett's test of sphericity was statistically significant at the ($p < 0.000$) level, indicating clusters of items are correlated (Field, 2009). Hence, the data are considered suitable for factor analysis.

The EFA resulted in reducing the dimensions of transformational leadership into two new factors. The adaptive culture remained as one factor, and firm's resilience analysis resulted into two new factors. The resulting factors comprised of all the original questions, the full results are demonstrated in Table 7. Refer to Appendix 1 for scree plots of the transformational leadership and firm resilience variables which have been reduced.

Items for transformational leadership	Component	
	1	2
TLV2: Our leadership has a clear sense of where he/she wants our unit to be in 5 years	0.813	
TLIC2: Our leadership says positive things about the work unit	0.810	
TLV1: 1 our leadership has a clear understanding of where we are going	0.780	
TLIC3: Our leadership encourages people to see changing environments as situations full of opportunities	0.770	
TLIC1: Our leadership says things that make employees proud to be a part of this organization	0.734	
TLV3: Our leadership has no idea where the organization is going (R)a	0.714	
TLS1: Our leadership challenges me to think about old problems in new ways	0.679	
TLS2: Our leadership has ideas that have forced me to rethink some things that I have never questioned before		0.867
TLS3: Our leadership has challenged me to rethink some of my basic assumptions about my work		0.801
KMO: 0.860, Bartlett's sig.: 0.000		
TLV: Transformational leadership- vision, TLIC: Transformational leadership–inspiring communication, TLS: Transformational leadership- intellectual stimulation		

Items for adaptive culture	Component
	1
ADCU 5: Develops a training program or apprenticeship program to teach employees new, critical skills to deal with future needs	0.807
ADCU6: Conducts intra-organizational research to determine how to make a product distinctive in the industry	0.783
ADCU1: Gets an outside viewpoint in order to identify and understand a problem	0.757
ADCU4: Believes the future of the organization is limitless	0.749
ADCU8: The organization works with external entities to enact policies that benefit them in the long run	0.729
ADCU2: Anticipates a large market demand for a new product	0.714
ADCU3: Dedicated to improving existing products, even successful ones, and developing new ones	0.690
ADCU7: Organizations implement new work process ahead of schedule and under budget	0.632
KMO: 0.906, Bartlett's sig.: 0.000	

Items for Organization resilience	Component	
	1	2
ORAR1: Given how others depend on us, the way we plan for the unexpected is appropriate	0.823	
ORPR4: We have clearly defined priorities for what is important during and after a crisis	0.819	
ORPR3: We have a focus on being able to respond to the unexpected	0.806	
ORPR1: Given how others depend on us, the way we plan for the unexpected is appropriate	0.700	
ORPR5: We proactively monitor our industry to have an early warning of emerging issues	0.661	
ORPR2: Our organization is committed to practicing and testing its emergency plans to ensure they are effective	0.538	
ORAR2: If key people were unavailable, there are always others who could fill their role	0.516	
ORAR5 We can make tough decisions quickly		0.879
ORAR4: We are known for our ability to use knowledge in novel ways		0.783
KMO: 0.890, Bartlett's sig.: 0.000		
ORAR: Organizational resilience- adaptive resilience. ORPR: Organizational resilience- planned resilience		

Table 7.
EFA for the research
variables

Confirmatory factor analysis (CFA) was conducted using (IBM Amos 22) to validate the results of (EFA) and check for the model fit along with assessing for reliability and validity of the measures (Lam, 2012), as it is shown in (Table 8). The diagrams of Amos-CFA are attached in Appendix 2.

The Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE) were calculated to validate the reliability of the measures (Table 8). Cronbach's alpha value

for all multiple items dimensions is greater than the threshold of (0.70) (Cronbach, 1971) with only one exception (0.61) which is still accepted (Hulin *et al.*, 2001). Composite reliability (CR) ranges from (0.63–0.87) which meets the acceptable level of (0.60) and above suggested by Fornell and Larcker (1981). These previous measures support the internal measure reliability.

Average variance extracted (AVE) which is the measure of (convergent validity) ranges between (0.44–0.58) where for some dimensions it is less than the recommended threshold of (0.5), but according to the argument of Fornell and Larcker (1981) (p. 46), AVE is accepted in that range if composite reliability is established. Discriminant validity (DV) was assessed by comparing the square root of AVE with the inter-construct correlation of factors. According to Fornell and Larcker (1981) if square root of AVE is greater than the inter-construct correlation, then discriminant validity is supported. Table 9 shows support for (DV) in this research.

4.2 The new factors

When factor analysis was run for transformational leadership dimensions, the analysis reduced the underlying factors into two factors, where the following items were included in one factor: Our leadership has a clear sense of where he/she wants our organization to be in five years; Our leadership says positive things about the organization; Our leadership has a clear understanding of where we are going; Our leadership encourages people to see changing environments as situations full of opportunities; Our leadership says things that make employees proud to be a part of this organization; Our leadership has no idea where the organization is going (Reversed); Our leadership challenges us to think about old problems in new ways. In fact, the analysis combined the vision dimension (highest loadings) with the Inspiring communication dimension (lower loadings) in one factor, and kept the Intellectual stimulation separate in another factor. This can be thought in terms of existing literature which emphasizes the visionary leadership to be the most critical aspect of successful leadership, supported by logical communication to provide support and raise acceptance to a shared vision and desired future. Omar (2017) argues that transformational leaders employ their idealized influence to raise the commitment to quality and deploys inspirational

Fit index	Threshold	Transformational leadership	Organization resilience	Adaptive culture
Chi-square (χ^2)		40.268	42.440	13.698
Degree of freedom		20	22	12
CMIN/DF	<3.00	2.013	1.929	1.142
CFI	>0.90	0.985	0.983	0.999
RMSEA	<0.08	0.052	0.050	0.019
PNFI	>0.50	0.540	0.591	0.424
TLI	Close to 1.00	0.973	0.972	0.997

Table 8.
CFA results – model fit indices

New factors	No. of items	Cronbach's alpha	CR	AVE	Inter-construct correlation	$\sqrt{AVE}$
Transformational Leadership-1	7	0.88	0.87	0.58	0.274	0.76
Transformational Leadership-2	2	0.61	0.63	0.47	0.274	0.68
Adaptive culture	8	0.88	0.88	0.47	NA	0.69
Organization Resilience-1	7	0.85	0.86	0.46	0.484	0.68
Organization Resilience-2	3	0.72	0.70	0.44	0.484	0.66

Table 9.
Reliability and validity test results

motivation to communicate the business philosophy, vision and success stories all the way long. Chen *et al.* (2018) as well states that transformational leadership stresses the importance of inspirational communication to deliver visionary messages and values. So, communication is discussed jointly in the literature as a mean by which leaders deliver their vision and influence followers. Savolainen (2000) contends that "Leaders must develop a vision and communicate it in a congruent way with leader's philosophy and style." We rename the dimension to be (Vision Communication). The other factor is still named as (Intellectual stimulation) as it only retained the items under the original dimension of intellectual stimulation, which is a stronger (standalone) trait of transformational leadership through the literature (e.g. Bass, 1985; Omar, 2017; Sosik and Dionne, 1997; Waldman, 1993).

Adaptive culture as a construct is made up of one dimension containing eight items. The factor analysis retained the eight items and produced one factor as well. Organizational resilience construct is measured through two reflective dimensions (planned and adaptive resilience) with five items in each. Factor analysis retained the ten items and resulted in two factors as well, but the distribution of items differed among them (two items of the adaptive resilience dimension were moved to the planned dimension). So the final planned resilience dimension is made up of: Our organization maintains sufficient resources to absorb some unexpected change; We have clearly defined priorities for what is important during and after a crisis; We have a focus on being able to respond to the unexpected; Given how others depend on us, the way we plan for the unexpected is appropriate; We proactively monitor our industry to have an early warning of emerging issues; Our organization is committed to practicing and testing its emergency plans to ensure they are effective; If key people were unavailable, there are always others who could fill their role. With the latter two dimensions being adaptive and moved to planned. Giving a look over the two moved dimensions, practicing the plans and having backup for unavailable people, they make more sense in the planning phase of resilience. Hence, we rename the dimensions to be: Resilience Plans and Resilience in action.

4.3 Hypothesis testing
In order to test the hypotheses of this research, regression analysis was conducted. However, prior commencing to regression testing, few assumptions was checked. Although Field (2009) accepts samples (greater than 30) to be normally distributed, normality test was conducted prior to correlation test, and we found that (kurtosis and skewness) of all variables fell in the accepted range of (-1 to 1) according to Garson (2012). Results are shown in Table 10.

Correlation test was conducted to check the assumption of linearity (see Table 10). As it shows in (Table 10), significant linear relationship (two-tailed) among all variables is supported ($p < 0.000$). None of the predicting variables correlation coefficients exceeds (0.8) (Garson, 2012), so, multicollinearity is not a concern. This is again supported by the values of variance inflation factor (VIF = 1.697, less than the threshold of 4) (Garson, 2012). Residuals are normally distributed and homoscedasticity is supported. The results displayed in (Table 10) shows that adaptive culture is strongly correlated with transformational leadership ($r = 0.641$, $p < 0.000$). Organization resilience plans are strongly correlated with transformational leadership ($r = 0.608$, $p < 0.000$. The strongest correlation occurs between organization resilience and adaptive culture ($r = 0.767$, $p < 0.000$).

		1	2	3	Mean	SD	Kurtosis	Skewness
1	Organization resilience	1			5.5198	0.8459	-0.128	-0.400
2	Adaptive culture	0.767**	1		5.5313	0.8413	-0.285	-0.375
3	Transformational leadership	0.608**	0.641**	1	5.7821	0.7200	-0.096	-0.513
Note(s): **. Correlation is significant at the 0.01 level (2-tailed)								

Table 10.
Research variables correlations and descriptive statistics

In order to test the research hypotheses, and the indirect effect of transformational leadership on organizational resilience through the adaptive culture (mediation effect), SPSS Hayes PROCESS macro-regression analysis (v3.5), which utilizes the bootstrapping method, was used. Hayes PROCESS is recommended over other analyses types (e.g. Baron and Kenny, Sobel test) as it makes less unrealistic assumptions than does the other tests regarding the normality of the indirect effect sampling distribution, and it is more powerful than other tests like the Baron and Kenny's test which has been criticized for its least power and the fact that "it is not based on the quantification of the very thing it is attempting to test the intervening effect".

A total of (5000) Bootstrap samples with (95%) confidence interval (CI) was used to estimate the direct effect and the mediating effect of the study variables. To run the regression, mean value of the new factors (global variables) (Aiken and West, 1991) were computed to test the hypotheses.

In step 1, the direct effect of transformational leadership on adaptive culture (the mediator) was positive and significant as well ($B = 0.8030$, t (377) $= 16.208$, $p < 0.000$). Accordingly, H1 was supported. In step 2, the direct effect of transformational leadership on organizational resilience was tested, the effect was positive and significant ($B = 0.656$, t (377) $= 14.856$, $p < 0.000$). Accordingly, H2 was supported. The third step of mediation process showed that the mediator (adaptive culture), has a positive significant effect on organization resilience (DV), was positive and significant ($B = 0.5517$, t (376) $= 15.2822$, $p < 0.000$). Accordingly, H3 was supported. In the fourth step of mediation, the effects of transformational leadership (IV) and adaptive culture (M) were tested on transformational leadership (IV). Results showed that transformational leaderships is still having a significant positive effect on organizational resilience (but with smaller coefficient) ($B = 0.213$, t (376) $= 4.7091$, $p < 0.000$). According to Preacher and Leonardelli (2010), this result supports the partial mediation effect of adaptive culture on organization resilience. The indirect effect equals the effect of transformational leadership on adoptive culture multiplied by the effect of adoptive culture on organization resilience (i.e. 0.803*0.5517), which equal 0.443, this effect, using Macro Process by Hayes, was found significant since the range between the lower and the upper limit confidence interval (LLCI to ULCI) does not contain zero. Accordingly, the mediation path is significant. Table 11 above summarizes the results of the regression.

	Coefficient (effect)	Standard error	t-value	p-value	Hypotheses results
Step 1: Transformational leadership (X) regression on organization resilience (Y) (path C)					H2
Constant	0.0000	0.0352	1.000	1.000	Supported
Transformational leadership	0.6560	0.0442	14.8568	0.0000	
$R^2 = 0.3693$ F (1,377) $= 220.7251$ $p < 0.000$					
Step 2: Transformational leadership (X) regression on adaptive culture (M) path (a)					H1
Constant	0.0000	0.0395	0.0000	1.000	Supported
Transformational leadership	0.8030	0.0495	16.2080	0.0000	
$R^2 = 0.4107$ F (1,377) $= 262.7002$ $p < 0.000$					
Step 3: Transformational leadership (X) and adaptive culture (M) regression on Firm's resilience (Y)– (paths c` & b)					
Constant	0.0000	0.0277	0.0000	1.000	
Transformational leadership (C')	0.2130	0.0452	4.7091	0.0000	
Adoptive culture (b)	0.5517	0.0361	15.2822	0.0000	H3, Supported
$R^2 = 0.6109$ F (2,376) $= 295.2113$ $p < 0.000$					
The mediation path effect (b*a or C-C') 0.8030* 0.5517 = 0.443 (LLCI = 0.3684, ULCI = 0.5236)					H4, Supported

Table 11.
Hypotheses testing

5. Discussion

This research findings demonstrated significant support for the predicted results. All the proposed hypotheses were significantly supported. Before we proceed on discussing the results, it is interesting to review the results of the factor analysis of transformational leadership construct, which reduced the measuring dimensions into two, renamed to: vision communication and intellectual stimulation, representing maybe a new perspective on studying transformational leadership in terms of these two most prominent traits. It is evident through this new investigation, which utilized a pre-validated measure of transformational leadership, that when applied to a new context (The Emirate of Dubai – service sector) resulted in different dimensions. Communicating an inspiring vision through idealized influence is reported frequently as transformational leaders' strongest effect (Chen et al., 2018; Fry, 2003; Horner, 1997; Kanji, 2008; Lakshman, 2006; Oakland, 2011; Omar, 2017; Puffer and McCarthy, 1996; Savolainen, 2000; Waldman, 1993; Zairi, 1994).

The impact of transformational leadership on adaptive culture in Dubai service sector organizations is significantly supported. The results reflect a strong impact. This in fact comes in alignment with the previous results of (Bass, 1985; Block, 2003; Waldman and Yammarino, 1999; Xenikou and Simosi, 2006). The transformational leaders qualities of being: visionary, intellectual stimulator and inspirational motivator, reflects on higher leadership capacity to sense and seize opportunities (Helfat et al., 2007), to perceive threats as opportunities of learning and adapting, to redeploy organizational capabilities accordingly (Teece, 2016), and to create an adaptive internal environment, where people and followers are encouraged through proper communication and aligned vision, and motivated via their transformational role models to be more agile and innovative (Akkaya, 2020), indicating the ability of transformational leaders in creating and nurturing more responsive and adaptive organizational culture. Linking this finding to its context, which is the service sector in the Emirate of Dubai, we find an explicit and very strong impact of transformational leadership on adaptive culture. Although other factors might have played role in predicting the adaptive culture, yet, at the time of this investigation, which took place at the outset of the crisis, the strength of the impact, makes transformational leadership a good and well-accepted explanation for nurturing adaptive cultures in these organizations. Considering that 99.2% of Dubai's service sector organizations are classified as small and medium (SMEs), and more of entrepreneurial nature (Dubai SME, 2018), the strong effect becomes more understandable. Escriba-Esteve et al. (2009) suggested that SMEs are more dependent on their managers for decision making than do the large organizations. And thus, they reflect better their leaders' traits and qualities.

Leadership in general and transformational leadership in specific are influential in determining the organizational success and its sustained competitive performance, yet, very limited research has investigated its impact on resilience. Although other researchers like (Teo et al., 2017) suggested that other factors affect organizational resilience, like leaders utilizing their social relationships; who suggested that the ability to draw on high-quality resources (including emotional, cognitive, social, and instrumental ones) is an important determinant in organizational resilience (Sommers et al., 2016); who investigated the team members' positive affect as predictor of resilience, this investigation has revealed an important finding in this vein, and an additional insight, where transformational leadership of Dubai's service sector organizations was found positively and strongly impacting organizational resilience during the adversity time of COVID-19 pandemic. Similar findings were supported by (Avery and Bergsteiner, 2011; Barasa et al., 2018; McManus et al., 2008; Southwick et al., 2017; Suryaningtyas et al., 2019; Teo et al., 2017; Zehir and Narcıkara, 2016). With the impact of intellectual stimulation being smaller than the impact of vision communication among Dubai's service sector organizations during the

The transformational leadership role

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Covid-19 pandemic, highlighting the role of vision, proper communication, and shared focus during times of adversity, which supported these organizations' survival during the time of COVID-19 pandemic. Transformational leaders' behaviors upsurge positivity and decrease negativity through a contagion process with their followers and people inside the organization (Bono and Ilies, 2006), their focused vision and deeply embedded values and motivational behaviors activate positive emotions like optimism, confidence, and hope that the existing crisis situation will soon come to an end (Brockner and James, 2008), they stimulate their people's enthusiasm to accomplish challenging tasks and missions through their transformational qualities and encouragement despite the adverse effect of the crisis (Bass, 1985), thus taking their shocked organizations a step closer to survival during crisis. Transformational leaders infuse a shared vision, agreed goals and common understanding among their people, so, employees are inclined to perform in their organizations' best interest through proper response, and thus, improve organizations' survival chances (Ostroff *et al.*, 2013).

The research findings highlighted that Dubai service sector organizational resilience is strongly and positively affected by organizational adaptive culture. Other researchers like (McManus *et al.*, 2008) investigated additionally two factors impacting organizational resilience, namely: "situation awareness and management of keystone vulnerabilities" (p. 81), and stressed the learning as an important variable which plays critical underpinning role as well. Nonetheless, this research focused on investigating the adaptive culture as a predictor of organizational resilience. Our findings are in alignment with earlier findings of (Barasa *et al.*, 2018; Somers, 2009; Southwick *et al.*, 2017; Suryaningtyas *et al.*, 2019). Adaptive culture permits a timely decision-making process, in a proper manner, during both normal and crisis times. Adaptive culture accounts for leadership, processes of decision-making, hierarchy of control, acquisitioning and disseminating knowledge, and determines to large extent the level of flexibility and creativity within an organization. It endorses adaptive qualities and proactive responses in the face of uncertainty or adverse effects (McManus *et al.*, 2008), and it stresses positive behaviors within the people, and within the organization consequently, and perceive the disrupting events as an opportunity to advance (Mallak, 1998). These effects play a major role in achieving organizational resilience. Interestingly, the results of this investigation showed a greater impact of adaptive culture on "resilience plans"; which is the pre-crisis dimension, than the "adaptive resilience"; which is the post-crisis dimension. Although both of them are affected significantly by both transformational leadership and adaptive culture, but it seems that planning for the crisis is more vulnerable to the effect. According to Prayag *et al.* (2018) planning for the crisis facilitates reconstruction of organizational resilience infrastructure, and contributes to "planned resilience." Conversely, the findings of Weick and Sutcliffe (2007), who claimed that planning to deal with threats depresses the organizations from identifying and responding back to the exceptional challenges provided by each crisis event, were denied by this research investigation. Additionally, planning for crisis seemed to be evident in Dubai's service sector organizations, and this in fact, can be thought of as a counter finding for researchers like (Yusuf and Saffu, 2005; McKiernan and Morris, 1994) who claimed that planning in SMEs is not related to organizational outcomes.

The mediating effect of adaptive culture was supported by the findings of this investigation. Adaptive culture partially mediated the relation between transformational leadership and organizational resilience. This finding simulates the Verdu-Jover *et al.* (2018) findings on the full mediating role of adaptive culture on the relation between organizational capabilities (structural flexibility, reflexive learning) and organizational outcomes (product/ service innovation). Nonetheless, we found partial mediating role in this investigation. This allows for future investigations on other variables which could affect this relationship within Dubai's context (e.g. learning/unlearning, environmental turbulence).

6. Conclusion

This research has deductively investigated the hypothesized relationships among transformational leadership style, adaptive cultures and organizational resilience, employing quantitative methods and utilizing a questionnaire based on pre-validated measures, to generate insights within the context of service organizations operating in the emirate of Dubai at the time of COVID-19 pandemic. The hypothesized relationships were supported by the findings of this research, that is: transformational leadership has a positive impact on adaptive culture and on organizational resilience, and that adaptive cultures mediates this impact partially. These findings provide important insights to academia and practitioners on the role of transformational qualities of leaders and adaptive cultures to surviving crises and maintaining balance through hard times. The research contributions are discussed in more details through the next section.

7. Contributions

7.1 Research contributions

This deductive empirical cross-sectional investigation, which builds on the existing theory of transformational leadership, adaptive culture and organizational resilience, has contributed to our understanding on transformational leadership and adaptive culture as a predictor of organizational outcomes (impact on organizational resilience). It extends the knowledge boundary of these theories into a new arena and new context, the services sector in The Emirate of Dubai, UAE. It provides new insights to academics and researchers interested in these areas of knowledge. Most research is conducted in Anglo-American context, and when it comes to developing countries (e.g. Middle East, South and Southeast Asia) the findings of research usually comes with surprises due to institutional and contextual differences. However, our findings were supported by previous research findings, Nonetheless, future research can incorporate more contextual and institutional variables, which might affect adaptive culture and organizational resilience as well, to validate these insights (few suggestions are included in Section 8). This research has revealed that transformational leaders qualities of vision communication and intellectual stimulation has significant role in predicting organizational outcomes. Additionally, this research empirical findings, using quantitative methods is expected to generalize at the level of target population of Dubai's service sector firms, and provides a stronger evidence than that provided by qualitative and case study-approach which has been widely utilized to investigate organizational resilience (Costanza *et al.*, 2015), hoping to achieve a contribution in partially bridging the earlier identified gaps.

7.2 Practical contributions

From the practical perspective, our findings provide strong implications for managers and leaders in organizations, especially during adversity times (like the period of COVID-19 pandemic) which has severely impacted the business globally. The findings of this research supports and overemphasizes the power of leadership as a pillar to support organizational performance and survival throughout crises by nurturing an adaptive culture, through proper vision communication to all people and followers. The shared vision, which is made clear via proper communication, has gained reasonable support through this research, as it was a stronger factor in impacting other outcome variables. Managers should focus on this aspect specifically as it has a significant role in increasing adaptive capacity of people and thus of the organizations, which results eventually in enhancing resilience capacity of the firm.

It is also crucial for the leaders to know that planning and practicing for the unexpected is of great help during sudden shocks and disasters. Eventually, leaders must strive to improve

their transformational traits, and evolve while their followers grow to be more resilient and adaptive.

This investigation gave an empirical support to the practitioners and leaders that organizational adaptive culture is a dynamic resource which can be utilized to advance their survival potentials. This insight is beneficial to leaders, and employees as well, of how adaptive cultures might help in navigating uncertainties and dynamic environments. Adaptive culture is nurtured via leaders who embed strong values within their vision, mission, and all policies and processes in the organization.

This research, despite its lack of focus on other external forces, yet provided important insights on the power of internal organizational factors (leadership and adaptive culture) in preparing for change and facing disruptive events. The findings highlighted the power of planning in boosting preparedness and achieving resilience in the face of adversity.

8. Limitations and future research

Despite the significant contribution and Contributions of this investigation, yet it has its own limitations. Maxwell *et al.* (2011) over emphasize longitudinal studies to measure mediation effect. Yet, the research in academia still adopts cross-sectional settings to measure mediation (e.g. Tajeddini *et al.*, 2020; Tang *et al.*, 2015; Weerawardenaa *et al.*, 2020). Since this investigation relied on cross-sectional setting, the casual relationships among the research constructs needs further verification. Future research might exploit longitudinal studies to further examine these relationships. Moreover, the findings of this investigation can be better supported if multiple data sources in addition to the questionnaire were incorporated.

Similar to most of the research investigating (survival of organizations), the focus is always given to surviving organizations Costanza *et al.*, 2015), maybe future research can give more focus to organizations who could not survive to validate for the other side of the story.

Our sample was limited to participants from the emirate of Dubai, although perceptions might vary significantly between different emirates, and other countries in the gulf region. Future research can consider this limitation for an enhanced generalizability. In addition, other leadership styles (e.g. transactional (Bass, 1985), charismatic (Conger,1989), participative (Huang *et al.*, 2010)) can be investigated in relation to adaptive culture and organizational resilience for an enhanced understanding, utilizing comparative analysis to find which style can serve the best in such situations. Additional variables can be incorporated in the research model to generate deeper insights, like mediators (e.g. organizational learning (Akgün *et al.*, 2003), contextual moderators (e.g. unlearning context (Martelo-Landroguez *et al.*, 2018); managerial discretion (Hambrick and Finkelstein, 1987); or environmental turbulence) as they are expected to reflect better on the context of the Dubai Emirate. Other non-contextual variables like firm size (Lyu *et al.*, 2020) can be utilized as well in future research.

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Appendix
The Appendix are available online for this article.

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