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Article

Is Workforce Agility a Good Coping Strategy to Deal with the COVID-19 Crisis: A Theoretical Perspective

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Abstract: Aim: This study aimed to understand the role of workforce agility as a coping strategy to curtail the COVID-19 pandemic. **Method:** The study reviewed and integrated two lines of literature to develop a theoretical framework to help business organizations to respond, adapt, and recover from the COVID-19 pandemic crisis. **Results:** The results showed that there are several commonalities between the workforce agility literature and the crisis management literature, mostly manifested in the speed of responding to uncertain and unpredictable, adverse events in the business environment. A thorough review of key themes in both kinds of literature led to developing a theoretical framework that links crisis drivers, crisis enablers, crisis capabilities, and response strategy. Workforce agility can be used as a coping strategy to deal with the COVID-19 pandemic crisis. Both kinds of literature evolve to respond to any crisis; the crisis management literature focuses on Meso-level (organizational level) or collective actions to mitigate the crisis, while the workforce agility literature focuses on the Micro-level (individual level). However, the successful response to any crisis requires the synergy of both actions. **Future Studies:** The results of this research are of prime importance for both researchers and practitioners. Researchers can use the theoretical framework as a baseline for building empirical research design. The current study also sets the context for future researchers who are interested in workforce agility to test the validity of agile work behaviors in real adverse context. It also opens a new stream of debate by deconstructing understudied links between workforce agility, resilience, and crisis management. **Managerial implication:** For practitioners to ensure a successful response to any impending crisis, they must develop their employees' agile behaviors. Practitioners can also redesign their recruitment strategy to select the right individuals with the right agile attributes, abilities, and behaviors to easily alter their behaviors according to the progressing crisis phases. Finally, practitioners can design continual learning interventions to include required agile skills and competencies to prepare their employees for future crises.

Keywords: response to COVID-19; workforce agility; crisis drivers; crisis enablers; crisis capabilities; and response strategies

<i>Practitioners notes:</i>	
<i>What is known?</i>	<ol style="list-style-type: none"> 1. workforce agility is an important coping strategy to attend to changes in the business environment by showing reactive, proactive, and resilient behavior. 2. Crisis management must take place in modern business organizations as the crisis becomes the norm and stability is the exception. 3. The Covid-19 crisis left a negative impact nearly on all aspects of organizations' lives. 3. The duration of the Covid-19 crisis is unknown.
<i>What does this paper add?</i>	<ol style="list-style-type: none"> 1. It integrates and streamlines two fragmented lines of literature. 2. It develops a new theoretical model that shows how workforce agility can be used as a coping strategy to deal with the COVID-19 crisis.

	<i>3.It shows how the Covid-19 crisis can be managed and mitigated by developing early signals and warning signs system.</i>
Implications for practitioners	<p><i>1.Practitioners can build agile workforces to deal with any devastating future crisis.</i></p> <p><i>2.Frustrated practitioners who tried to build an agile organization to deal with crisis and found it difficult, their endeavor is not impossible if they know how to build agile workforces.</i></p> <p><i>3.By preparing and developing agile workforces, business managers set the tune for an early alarming system to deduct a crisis.</i></p> <p><i>4.Finally, policy makers and public officials can extend and apply the results on public organizations to be ready and respond efficiently and effectively for such a crisis of COVID-19.</i></p>

1. Introduction

The COVID-19 crisis emanated from Wuhan City in China in late December 2019 spreading all over the world. The outbreak is not only considered as a health crisis, but it also has economic, social, cultural, and psychological implications that are inexperienced before. The Covid-19 pandemic is not the first and will not be the last type of health crisis. The impact of the crisis varies among countries, sectors, companies, and individuals. Some countries, sectors, companies, and individuals have been negatively affected more than others. For some industries like medical equipment, manufacturing sanitizers, and pharmaceutical companies the crisis represents a great opportunity, while for other industries like hospitality and tourism, it has been a real disaster. Few other sectors/ industries like manufacturing, banking, telecommunications, NGOs, academic institutions, and government bodies are affected to some extent, but still, the real impact has not yet been determined.

Working in such a changing environment indicates that a crisis can emerge at any time and may become part of companies' daily lives (Roseline & Monday, 2020) which means stability is more likely the exception. Some crises have a small or minimal impact, while others are devastating, widely spread, and last for a long time. The only way to survive and prosper in the current business environment is by having the ability to respond, adapting, and recovering from changes promptly or what is called "organizational agility" (Sharifi and Zhang, 1999). Organizational agility emerges as the main coping strategy to counter changes and achieve sustainable competitive advantage (Almahamid et al. 2010). Organizational agility is a collective action that requires an agile strategy, agile system, and agile workforces. Workforce agility is one of the key pillars for organizational agility and best fits with organizations that work in complex, dynamic, and unpredictable environment (Varshney & Varshney, 2020), even so, its development faces different challenges attributed to the cultural context, unclear strategic intent, lack of leaders' ability to foster workforce agility, inability to integrate different generations within an organization, and individual resistance to change (Azuara, 2015).

When the COVID-19 crisis hit the world, it did not discriminate between developed or developing countries, poor or rich, and the panic was everywhere. Countries have used a set of general measures, such as lockdown, curfew, social distancing, and stay home among other measures to contain the crisis. Unsurprisingly, the traditional ways of doing things, using hierarchical models, control methods, and predefined strategies quickly became obsolete and inadequate (Braun, Hayes, DeMuth & Taran, 2017) to respond promptly to the crisis. What differentiates the Covid-19 crisis is that it is not only a health problem, but it also creates a chain of sequence crises including economic, business, financial, psychological, cultural, and religious. The common features among all these crises are the onset, source/sources, duration, and consequences which were unknown creating high levels of uncertainty and anxiety.

Turning to the extant management literature, we found a plethora of models, approaches, and frameworks that were developed to deal with the uncertain change in the business environment. Uncertainty is the first sign and symptom of the early stages of the crisis with less information and resources; at the same time, there is an urgent need to make decisions with incomplete information. In the change management literature, there are several models proposed to deal with changes in the business environment (which is out of the scope of the current paper). However, these models have been highly criticized for being static and irrelevant to deal with a dynamic business environment (Braun, Hayes, DeMuth, & Taran, 2017). Agility can be a remedy for these defects and a complementary strategy that properly fits with the unpredictable, complex, and dynamic business environment (Braun et al. 2017). If agility is developed and continually maintained, it can ensure an organization's survival and success in a dynamic business environment (Sherehiy et al. 2007; Sherehiy, 2008; Sherehiy, Karwowski & Layer, 2007). It enables organizations to respond, mitigate, and confine the crisis uncertainty (Roseline & Monday, 2020). Workforce agility is a crucial factor to achieve organizational agility (Almahamid, 2018). In other words, activating workforce agility is conducive to organizational agility.

A set of theoretical models and frameworks were developed to facilitate workforce agility, but most of these models and frameworks remained untapped and lack empirical evidence to inform the crisis management practitioners. The models proposed varying agile attributes for workforces to attend to changes in the business environment; however, there were no unified attributes that guide the workforce agility development process. Each model was built on different assumptions and suggested different agile attributes for developing agile workforce behaviors. There has been no deliberate attempt in the literature to unify, integrate, and combine these models into one comprehensive and applicable model that can be used in practice. Prior studies focused on some organizational practices that enhance workforce agility such as work organization (Sherehiy et al., 2007); work structure and organizational learning (Alavi, Wahab, Muhamad, & Shirani (2014); knowledge sharing (Suofi, Hosnavi, & Mirsepasi, 2014); organizational learning and training; reward system; employee involvement; teamwork; information system and psychological empowerment (Muduli, 2016, 2017); emotional intelligence (Hosein & Yousefi (2012); electronic human resources (HER) (Al-kasasbeh, Abdul Halim, & Omar, 2016), and knowledge management processes (Almahamid, 2018). Not to mention, these are limited empirical evidence that is equivocal and dominated by cross-sectional design. Cross-sectional design involves collecting data from different employees' groups with different demographic backgrounds including age, education, gender, and career development which denote different agile attributes. It is worth noting that aggregating workforce agile attributes data on the organizational level is misleading and does not represent the actual agile workforce behaviors. Some employees may have a high level of agile attributes, while others have low agile attributes. Combining these attributes at the organizational level reflects a moderate level of workforce agility which is not true. In the optimal situation, the cross-sectional design considers the relationship between several contextual factors and workforce agility, but this does not mean they are the root causes behind the high level of workforce agility. However, none of the previous studies has attempted to explore how workforce agility can enhance companies' abilities to respond to the COVID-19 Crisis. This research expands and sets a theoretical root for the claims of Roseline and Monday's study (2020) that states that organizational agility is an appropriate coping strategy to deal with a crisis like the COVID-19 crisis. It also responds to Bundy et al. (2016) who encourage future research to explore how individual and organizational factors interact within organizations enabling crisis response. By focusing on workforce agility, companies perhaps can enhance their organizational resilience (Bundy et al. 2016), and grapple with the COVID-19 crisis. Thus, it can be argued that workforce agility can be a good coping strategy to deal with the COVID-19 pandemic and any similar future crisis. To the best of our knowledge, this is the first study that highlights how workforce agility can enhance organizations' abilities to respond, adapt, and recover from the prolonged COVID-19 pandemic crisis.

2. Literature Review

This section reviewed the perspective of workforce agility and crisis management literature to help business organizations to respond, adapt, and recover from the COVID-19 crises.

2.1. Workforce Agility Perspective

Workforce agility is a concept emanated from the broader concept of organizational agility. "Organization agility" or "manufacturing agility" was coined in the late nineteenth century to refer to various organizational attributes that enable organizations to respond and act competitively to any changes in the business environment (Sharifi and Zhang, 1999). During the years, agility gradually evolved to be the most relevant strategy for coping with the 21st century dynamic conditions (Yusuf, Sarhadi, & Gunasekaran, 1999; Gunasekaran & Yusuf, 2002), where unpredictable, sudden, unprecedented, and frequent changes are dominant and are more likely to trigger different types of crises.

Since its inception, the concept was believed to fit only manufacturing companies context, but later, it became widely spread, used, and extended to diverse business functions, such as business process agility (Seethamraju & Sundar (2013), supply chain agility (Swafford, Ghosh, & Murthy (2008), customer agility (Roberts & Grover, (2012), and workforce agility (Almahamid, 2018; Alavi, Wahab, Muhamad & Shirani (2014); and can be collectively applied to the whole organization-that is organizational agility (Almahamid, 2019; Zain, Rose, Abdullah, & Masrom, 2005; Sherehiy et al. 2007). Applying agility to different aspects of an organization has led to the existence of unprecise and ambiguous definitions of agility (Walter, 2020). For example, Gunasekaran (1999) defined agility "as the ability to survive and prospering in a competitive environment of continuous and unpredictable change by reacting quickly and effectively to changing markets, driven by customer-defined products and services."

According to Sharifi & Zhang (1999), agility is about the ability to detect the changes in the business environment and respond to them by providing the appropriate capabilities. Earlier, Kidd (1994) defines agility as a rapid and proactive adaptation of enterprise elements to unexpected and unpredicted changes. Alavi, & Wahab (2013) described agility as a set of the organization's abilities that include the following: (1) uncovering new opportunities for competitive advantage; (2) integrating the existing knowledge, assets, and relationships to seize these opportunities; and (3) adjusting to sudden changes in business conditions. A common shared theme among all these definitions is that the environmental conditions are unpredictably changing over time so that organizations must respond and adapt promptly to these changes to survive. Although these definitions are theoretically valid and logical, they are irrelevant and inappropriate for practitioners as they do not show how to develop agility. They also do not show how long the development may take before a new change emerges that entails a new form of agility, nor do they show what types of challenges they may face during the development journey? or what are the best interventions to maintain it? Practically, organizations cannot act promptly and competitively to seize emerging business opportunities attached to crisis without agile workforces or what is called "workforce agility". Workforce agility is a key element for achieving organizational agility, where it is intertwined with agile strategy and agile leadership (Ulrich and Yeung, 2019) to create the most appropriate response to the business environment.

As workforce agility is a complex and multifaceted concept, it restricts advanced empirical studies in this domain (Varshney & Varshney, 2020). Despite the importance of workforce agility to deal with the dynamic business environment, it is still ill-defined (Muduli, 2016), and similar concepts such as "individual agility", "human resource agility", and "personal agility or leadership agility" (Azuara, 2015; Braun et al. 2017; Ulrich and Yeung, 2019) have been used interchangeably. Overly, it also overlaps with "resilience" – a concept that is used in the organizational psychology domain to reflect an individual's ability to mitigate, manage, and reduce workplace stress that is caused by dramatic changes in the business environment (Braun et al. 2017). Despite both concepts, though, distinct attributes are still needed. Presumably, agility raises the amount of stress in the workplace as it demands extra effort from employees, whereas resilience reduces it by reflecting positive attitudes towards change and considering it a real opportunity (Braun et al. 2017). Resilience is more related to a set of personality traits that is hard for an individual to change, while agility is a skill or

behavioral skill that can be improved by formal and informal training and learning. Braun et al. (2017) posit that agility on the individual level is “equipping employees with the [right] skills to proactively identify and implement change when needed”. Other studies believe that the individual’s ability to act at high-speed to ensure success and survival (Bosco, 2007) is a sort of workforce agility. Workforce agility can be defined as an individual’s ability to respond, adjust, and adapt his/her behaviors in the face of severe adverse events stemming from a crisis by learning how to navigate and turn the crisis threats into a real business opportunity before competitors.

Carrying out an organization’s agility strategy demands agile workforces (Sherehiy et al. 2007); Safari, Maghsoudi, Keshavarzi, & Behrooz (2013), who can deal with unexpected and unprecedented changes caused by a crisis. Agile workforces formed the foundation of an agile organization. They can turn any potential threats of crisis into opportunities and capitalize on them by addressing customers’ emergent needs and offering high-quality products or services (Sherehiy, 2008; Sherehiy, Karwowski, & Layer, 2007). Agile workforces can maintain a balance between handling the complexity of uncertainty along exercising autonomy when dealing with adverse events (Varshney & Varshney, 2020). Taken together, these results indicate that achieving a high level of workforce agility in real-world practice is a challenging task and is a continuous process that depends on employees’ willingness to be agile. According to Ripatti (2016), attracting employees’ attention towards agility is a tough task for organizations that intend to be agile. Youndt et al. (1996) argued that developing and maintaining a “highly skilled, technologically competent and adaptable workforce that can deal with non-routine and exceptional circumstances” is necessary to achieve flexibility - which is one dimension of manufacturing agility strategy.

In the early '90s and up to the new millennium, the workforce agility literature was purely theoretical (Almahamid, 2018), focused on identifying employees’ agile attributes with a few exceptions (Breu et al., 2001). Prior models (for details see Sherehiy et al. 2007; Sherehiy, 2008) identified several attributes for agile workforces, without differentiating between personality trait-based attributes and behavioral-based attributes. Yet, it is still not clear if some of these attributes are birth-traits or malleable traits that can be developed and improved by following effective intervention training programs (Braun et al. 2017; Taran, 2018; Varshney & Varshney, 2020). Moreover, if organizations can develop these traits before, during, or sometimes after a crisis, it should be noted how long and how fast it takes to develop them. However, it is all still unclear especially when facing an unprecedented crisis like COVID-19. Thus, the unique crisis of COVID-19 left/raised many questions in the literature yet to be answered.

At the beginning of the new millennium, a paradigm shift has occurred in the perspectives of scholars towards behavioral aspects of workforce agility. This may be due to the increased numbers and speed of changes in the business environment, and that the different types of crises start emerging continually. According to Griffin and Hesketh (2003), an individual has three behavioral choices when dealing with changes in a business environment, which include being proactive, reactive, or tolerant. Proactive behavior reflects an individual’s ability to initiate actions and try to change the new environment to fit his/her aims and endeavors. Reactive behavior relates to accepting crises by adjusting ones’ behavior to fit with the new environmental conditions. Finally, tolerance behavior is the passive form of reactive behavior where an individual is only bearing the burden of the new conditions and carrying on working activities when other choices are not possible at least for the time being.

The three types of behaviors highlight the importance of behavioral aspects of agility. However, the distinction between reactive and tolerance behavior in practice is borderless and minimal as each change causes a stressful situation that an individual must deal with. Besides, classifying individuals’ behaviors in that way has created a big doubt for practitioners regarding the most appropriate behavior to follow when a new change emerged as there are some aspects of change that can be managed and changed, while others cannot be managed nor changed. Building on Griffin’s and Hesketh’s assumptions, Sherehiy et al. (2007) not only reviewed the previous agility models, but also combined and categorized the workforce agility attributes under three behavioral factors which are

proactive, adaptive, and resilient and which correspond to Griffin's and Hesketh's identified behaviors.

Subsequently, Sherehiy (2008) developed a generic measure for workforce agility consisting of three behavioral dimensions: proactive, adaptable, and resilient behavior. Sherehiy contends that each behavioral dimension is represented by several personal attributes that stimulate workforce agility. For example, attributes as anticipating problems related to change, initiating activities that lead to help to find solutions for change-related problems and improvements in work, developing solution for change-related problems all promote proactive behavior. Attributes such as interpersonal and cultural adaptability, spontaneous collaboration, learning new tasks and responsibilities strengthen adaptive behavior. Finally, a positive attitude towards change to new ideas, technology, and tolerance as well as dealing with uncertain, unexpected situations, and coping with stress can spur an individual's resilient behavior.

Lately, these three behaviors have become a common measure for workforce agility in almost all consequence empirical studies (Alvai et al. 2014; Cai et al. 2018; Hosein and Yousefi, 2012; Liu, Li, Cai, & Huang, 2015; Sherehiy and Karwowski, 2014; Varshney & Varshney, 2020). These studies deemed attitude as an essential part of workforce agility and are not less important than behavioral ones. According to Asari, Sohrabi, & Rashdi (2014), there is a lack of studies in exploring workforce agility using an attitudinal lens. The authors used Ajzen's theory of planned behavior to develop a theoretical model where the intention to agility is a function of several attitudinal and contextual factors which include attitude towards agility, subjective norms, and perceived environmental as well as an internal control at the workplace. As a result, the intention influences actual agile behavior. Thus, improving workforce agility demands developing both attitudinal and behavioral aspects.

In parallel, researchers began scanning and searching the surrounding context for drivers to increase workforce agility and explored issues as diverse as emotional intelligence (Hosein and Yousefi, 2012, Varshney & Varshney, 2020); (Sherehiy and Karwowski, 2014); organization structure, and organizational learning (Alvai et al. 2014); E-HRM(Al-Kasasbeh et al.2016); enterprise social media and psychological conditions (Cai et al. 2018); task conflict and relationship conflict(Liu, Li, Cai, & Huang, 2015) and found positive relationships between these contextual factors and workforce agility. The implicit assumption in these studies indicates that having more agile attributes mirrors employees' abilities to be resilient and agile to deal with a crisis successfully by adapting easily and coping with changes distressfully and innovatively (Braun et al., 2017; Bardoel, Pettit, De Cieri, & McMillan, 2014). More importantly, most of these studies are cross-sectional and by no means claim a causal relationship between contextual antecedents and workforce agility. Although workforce agility only manifests itself in a real-world crisis, these studies have not been conducted during a real crisis, and they depend heavily on a self-report measure to assess workforce agility reflecting only employees' attitudes towards agility but not their actual agile behavior. Certainly, there is a significant gap between an individual's attitudes and behaviors. Prior studies not only have widely dispersed agile attributes but also have not agreed on what formed workforce agility antecedents and consequences that have left practitioners without clear guidance.

Regardless of the number of attributes that employees may already have, workforce agility is an evolving action plan that should be developed, revised, and adjusted over time to fit with emerging crises. Agile workforces who interact with each other and external stakeholders determine how to attend to the crisis and its consequences more than only having a plan or strategy designated for dealing with the impending crisis. As the number and probability of crises occurrences increased dramatically to include refugee crises, political crises, war crises, natural crises, debt crises, the Greece crisis, the Euro crisis, and other Brexit crisis, as well as the COVID-19 crisis, both organizations and individuals witness a life full of crises or what we called "the generation of crisis". Thus, managing a crisis is a challenging task and not all companies can navigate the crisis successfully especially when it is a novel crisis like the COVID-19 pandemic.

2.2. Crisis Management Perspective

More than ever, organizations have encountered different crises and responded with varying degrees. According to Oxford's dictionary, a crisis is "a time of great danger, difficulty or doubt when problems must be solved or important decisions must be made; or a time when a problem, a bad situation or an illness is at its worst point". In general, crisis management refers to the processes that organizational leaders use to take actions, decisions, and communicate with internal and external stakeholders to reduce the negative crisis effect and speed up the recovery process. Specifically, organizational crisis, according to Clark (1995/1996) refers to "unplanned events that cause death or significant injuries to employees, customers or the public; shut down the business; disrupt operations; cause physical or environmental damage, or threaten the facility's financial standing or public image". This is a comprehensive definition that firmly fits in with the current health crisis. It indicates that a crisis is ingrained in governments, companies, and the lives of individuals and an inevitable event. Eventually, several contextual internal and external, technical/ economic, social, and organizational factors trigger crises within organizations (Mitroff, 1987). The COVID-19 crisis causes significant causality among citizens (employees working in different organizations), close-down business organizations, disrupts business operations, and provokes significant financial losses. Regardless of the crisis type, whether a natural disaster, a terrorist attack, an economic and financial recession, a failure in systems and machines, a human error, or a pandemic like Covid-19, all can strike dramatic, unpredictable, and severe threats on the government, business organizations, and individuals' daily operations (Burnard, 2013; Mitroff, 1987; Roseline and Monday, 2020). Thus, the COVID-19 crisis management can be defined as a set of processes, actions, decisions that decision-makers have used to deal with the threats to reduce the numbers of causalities and infection rates, speed up recovery, and create hope for returning business operations to normality as soon as possible. Organizational crises originate from two main sources: external and internal. The COVID-19 crisis is considered as one of the external organizational crises (Roseline & Monday, 2020).

Internal organizational crises can be avoided and controlled by planning and designating a strict control system. In contrast, external organizational crises corresponding to the COVID-19 pandemic is one that is certainly difficult to prevent, predict, and control. The unprecedented COVID-19 crisis represents a unique event with different implications for different parties, but not all governments, business organizations, and individuals are ready and well-prepared to deal with it. Invariably, a crisis represents a deviation from the ordinary government, business, and individuals' operations and activities. Events that induce-crisis are characterized by having a low level of probability, a high level of tragic consequences and ambiguity, and time pressure for taking decisions (Runyan, 2006), as well as causing a threat to organizations' reputations and lives. On the 11th of March 2020, when the World Health Organization (W.H. O) declared and labeled the COVID-19 a pandemic, it openly and directly urged governments and business organizations around the globe to be prepared for the pandemic. That reflected the early warning signs that a crisis was on the way. In the beginning, neither governments nor business organizations caught the signal of the crisis, they thought it will be limited to some specific geographical territories like China and its neighboring countries. In a few weeks, the pandemic spread all over the world and became a public health crisis everywhere.

Dealing with this crisis is a tough task, it requires estimating the size of threats, identifying the surprises that accompanied the event, and taking decisions quickly and acting promptly to reduce the negative impact on various stakeholders' groups (Roseline and Monday (2020). Yet, a significant part of the crisis management literature to date still tends to focus on how to prevent organizational crises and minimize their impact rather than acknowledging the business environment is dynamic and full of triggers for crises. However, the COVID-19 crisis cannot be prevented, but its negative and undesirable effects can be reduced. The COVID-19 crisis per se has not always been harmful as the crisis is inevitable and has become a part of modern business organizations' lives. The problem is in the misinterpretation and the unjustified delay as a result of managers' reactions and actions. This may be due to the failure of the formal organizational control structure to pick up the early warnings and weak signals of the crisis that are exchanged and transmitted among individuals and team members through ongoing streams of social interaction that are transferred through informal networks (Fischbacher-Smith & Fischbacher-Smith, 2014). Most likely these signals are missed or

rejected and sometimes ignored by business managers because they have less probability to occur. When a crisis emerges, leaders must respond quickly by taking a series of quick decisions that are done all over the crisis phases to mitigate its effect. Several organizational, psychological, and situational factors determine the chosen response strategy. According to Lamin and Zaheer, (2012) the efficacy of the response strategy certainly relies on either business or public communities.

The crisis management literature is mainly used to deal with economic, financial, and natural disaster crises, but rarely with a prolonged pandemic crisis of COVID-19. COVID-19 is a crisis with a special peculiarity; in this regard, previous theories, models, guidelines, and frameworks for managing crises may not fit the current context and can be only used as a general guideline for managing the COVID-19 crisis effectively and efficiently. Practically, a crisis often progresses along with three phases, namely, pre-crisis, crisis, and post-crisis (Bundy et al. 2016; Mitroff, 1987; Roselin and Monday, 2020). In the pre-crisis phase, the focus is on the level of the organization's preparedness by having a crisis' plan with different possible scenarios, testing schedule, and live exercise carried out frequently using a simulated case. By doing so, an organization can revise the plan, learn what works, what does not work, and how to be ready for the next approaching crisis. The crisis phase is the crucial one among other phases where an organization's leaders take decisions and actions, as well as devise effective communication strategy, where they try resorting to prevent the crisis, minimize its impact, and re-establish control. The post-crisis phase relates to lessons learned and public evaluation of an organization's ability to handle the crisis.

The three phases indicate that organizational preparedness, business leaders' proactive behaviors, and workforce agility should occur simultaneously for a timely response. Organizations that have a crisis management plan that is updated regularly, a crisis management team, a setup periodical testing schedule for the plan and a devised persuasive communication message will be much more capable to handle a crisis than their equal counterparts (Barton, 1993). So far, we have discussed how each line of literature deals with an uncertainty that is caused by a change (crisis) in the business environment, the next section discusses the syntheses of both perspectives.

2.3. Synthesizing of Both Perspectives

Although each line of the workforce agility and crisis management literature is independent of each other and presents an imperfect picture of how to respond to a crisis, both types of literature share several commonalities. For example, both lines of literature deal with unprecedented and unpredictable changes and agree that the business environment is so complex and full of crisis triggers. Both kinds of literature also highlight the necessity of developing a response strategy or an action plan to be ready for the next crisis to reduce its negative impact and speed up the relief process. Besides, both lines of literature highlight the importance of proactive behavior of individuals to prevent, manage, and recover from the crisis. Despite these commonalities, there are differences as well as real opportunities for synthesis. We found limited research that integrates these two lines of literature to understand how the interference and cross-cutting between the two lines can help to conquer the COVID-19 crisis.

Both crisis management and organizational agility literature deal with a crisis as an unexpected and unprecedented event that occurred on an organizational level or what is called "event perspective" response (Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017), even though the response to a crisis is a collective action that must include all levels. Both lines of literature ignored the role of agile workforces during an action. Exceptionally but theoretically, the study of Roseline and Monday (2020) is the only work that links organizational agility with crisis management. The researchers suggested that organizational agility capabilities such as flexibility and speed can be used as coping means to deal with, manage, and recover from a crisis such as COVID-19.

Other researchers tried to combine resilience literature -one dimension of organizational agility with crisis management literature together to understand how organizations respond and cope with unexpected and sudden changes in the business environment (Williams et al. 2017). Therefore, the current study tries to extend this line of thoughts by exploring how workforce agility can enhance organizations' capabilities to combat COVID-19 or any looming crisis. What Roseline and Monday

proposed is that organizational agility (Speed and flexibility) is a fundamental strategy to deal with a crisis such as COVID-19 by following one of three strategies: Proactive strategy that is related to putting down all resources, procedures, knowledge, skills, and plans a long time. Responsive strategy relates to an organization's ability to respond and react positively to the crisis. The logic behind this strategy is to watch when the crisis signs start to appear, then react and respond quickly by taking timely decision making. Finally, the reactive strategy is related more to absorbing the crisis shock and allowing it to pass, and then considering the best things to do (Roseline & Monday, 2020).

For business managers, it was not clear under which circumstances each strategy is applicable and can be implemented effectively. We believe that the three types of strategies can be used sequentially or concurrently according to the development of the crisis phases. This is due to dealing with a crisis as a continued process (Williams et al. 2017), which normally goes through pre-adversity, during, and post-crisis. We developed a theoretical framework to show how crisis drivers, enablers, capabilities, response strategy, and workforce agility are intertwined for an organization to respond to COVID-19 as shown in Figure 1. Agility drivers are the triggers of any crisis and could be financial, economic, organizational, people-related, and pandemic-related like COVID-19 that require developing a set of crisis capabilities (speed, responsiveness, flexibility, and competency). To develop these capabilities, companies must have the right set of enablers including innovative leadership, a crisis management team, an emergency plan, slack resources, a unified communication message, and an integrated health system. Developing these capabilities entails employees who are capable to alternate their behaviors from being proactive, reactive, and resilient according to the severity of the COVID-19 crisis. The capabilities also enable an organization to follow different paths of strategy selection according to the size and severity of the crisis threats. Having needed behavior integrated with the best-fit response strategy enables an organization to respond effectively and efficiently to the COVID-19 pandemic. In fact, with the increasing number of crises, applying one response strategy is questionable and can be challenged. The proactive strategy, for example, may work well with internal organizational crises but not with the COVID-19 pandemic as the existing emergency plan needs adaptation to fit the specificity of the new crisis. Similarly, the reactive strategy is not a business-wise strategy as businesses are always looking to reduce losses and maximize profits especially when the consequences are a matter of life or death. The proactive strategy can increase organizational preparedness for a crisis but does not prevent it as it was proposed. In this case, integrating a proactive strategy with a response strategy may be the most appropriate strategy that best fits with the COVID-19 crisis. Additionally, what Roseline & Monday (2020) proposed is not valid and lacks empirical root because organizational agility is an output of several organizational practices and is significantly underpinned by agile workforces. Regardless of response strategy, workforces who choose, act, and decide which is the right response strategy that best fits the situation of crisis, is that proactive, responsive, or reactive. The agile workforce is one of the enablers of organizational agility. Agile workforces help agile organizations to easily pick up the early warnings and weak signals that appear beforehand in a business environment and deal with crisis efficiently and effectively (Fischbacher-Smith & Fischbacher-Smith, 2014). Agile workforces determine how and why an organization must handle the crisis in a certain way but not the other way around. Often, agile individuals are capable and well-prepared, trained to carry on a response strategy by being physically and mentally prepared, and are ready to deal with any impending crisis. Agile workforces alternate their behavior with the development of the crisis.

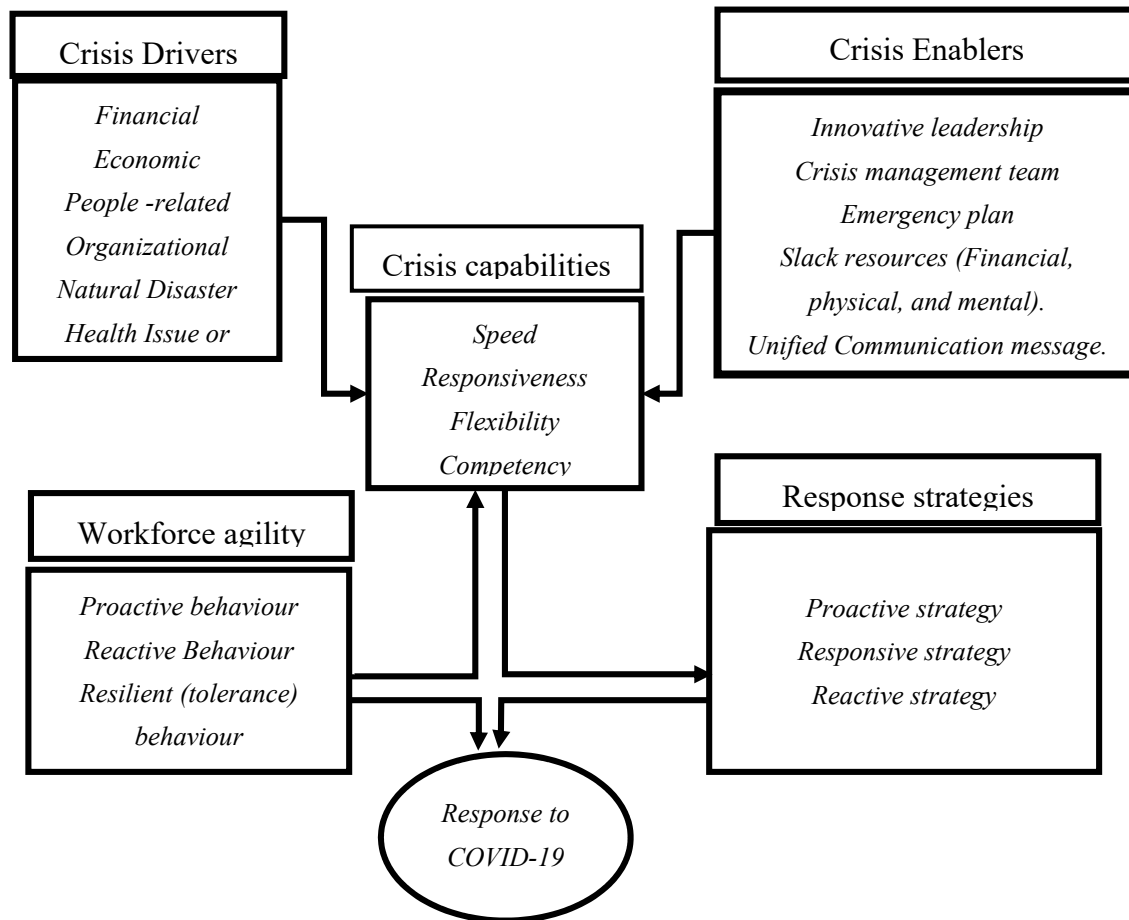


Figure 1. Workforce agility as a coping strategy to COVID-19.

At the beginning of a pandemic crisis, agile workforces use reactive behaviors by adjusting their behaviors to fit in with the new environmental conditions, while learning and developing new skills, knowledge, and competencies. By the time they understand the crisis well by reducing uncertainty and minimizing risk levels, they utilize proactive behavior by changing the crisis challenges into real opportunities. In the worst-case scenario, agile workforces show a high level of resilience even if the situation does not allow them to behave proactively or reactively by carrying on working and bearing the high pressure of the crisis until a window of hope appears on the horizon to transform the crisis into opportunity. In contrast, none-agile individuals cannot adjust their behaviors according to the evolution of the crisis. Dealing with any crisis is an individual's decision that enriches the organizational ability to be flexible and promptly respond to unexpected and surprising events.

3. Conclusions and Final Remarks

This study aimed to give more insights about how workforce agility can be used as a copying means to deal with the COVID-19 crisis or any looming crisis. The current study contributes to the workforce agility literature by expanding its application to the crisis management domain which is expected to provoke more future studies. It also showed that workforce agility that was mainly applicable to manufacturing industries can be used by governmental, non-governmental, business organizations, and even on individual level to manage a crisis. By consolidating two lines of established literature, it may form a strong theoretical base for consequent future empirical studies. Finally, it enriches organizational agility literature by highlighting the crucial role of workforce agility in achieving organizational agility. The results showed that there is limited research that explores how agility achieved and used in enhancing an organization's ability to face a pandemic crisis such as COVID-19 (Roseline & Monday, 2020).

Besides, to the best of our knowledge, this is the first study that explored how workforce agility can be used as a coping strategy to deal with a prolonged pandemic crisis. Moreover, the results revealed that there are some commonalities between workforce agility and crisis management literature when dealing with unexpected and surprising events. Despite the importance of pandemic crises and their critical impact on humans' lives, there is less attention given to them in both lines of literature. Therefore, future research should devote more time to understand how organizational or workforce agility, can enhance governments, business organizations, and an individual's ability to prepare, manage and recover from crises, and especially prolonged crises like COVID-19. Future research also can focus on how and why leaders take actions and decisions in this way but not the other way around which determines the success or failure of managing crisis. A comparative analysis of leaders' behaviors pre-crisis, during, and post-crisis requires further investigation. Every crisis is preceded by several warning signs and signals, exploring why and how some countries, governments, business organizations, and individuals pay early attention and take these signs seriously as warning signs of a coming crisis while others ignore or reject them and lessen their importance. Business managers can benefit from the results of this research by always building agile workforces to deal with any future crisis. Frustrated business managers who tried to build an agile organization to deal with a crisis and found it difficult, their endeavor is not impossible if they know how to build agile workforces. By preparing and developing agile workforces, business managers set the tone for an early alarming system that can pick up any signs of warnings or weak signals that are signaling a change in internal, external, financial, economic, people-related factors, or organizational environment. Finally, policymakers and public officials can borrow the principles of workforce agility and instill them in public organizations to be ready and respond to a crisis such as COVID-19.

References

1. Almahamid, S. (2015) The impact of knowledge management operations practice on organizational performance with the existence of organizational agility: an empirical study in Jordanian Commercial banks Headquarters. *Jordan Journal of Business Administration*, 11(2), 349-380.
2. Almahamid, S. (2018) Knowledge Management processes and workforce agility: theoretical perspective. *International Journal of Management and Applied Sciences*, 4(7), 28-33.
3. Almahamid, S. (2019). The influence of ERP system usage on agile capabilities. *Information Technology & People*, 32 (6), 1633-1656.
4. Al-kasasbeh, A. M., Abdul Halim, M. A. S., & Omar, K. (2016). E-HRM, workforce agility and organizational performance: a review paper toward theoretical framework. *IJABER*, 14(15), 10671-10685.
5. Al-Faouri, A. H., Al-Nsour, M. M., & Al-Kasasbeh, M. M. (2014). The impact of workforce agility on organizational memory. *Knowledge Management Research & Practice*, 12(4), 432-442.
6. Alavi, S., Abd. Wahab, D., Muhamad, N., & Arbab Shirani, B. (2014). Organic structure and organisational learning as the main antecedents of workforce agility. *International Journal of Production Research*, 52(21), 6273-6295.
7. Alavi, S., & Wahab, D. A. (2013). A review on workforce agility. *Research Journal of Applied Sciences, Engineering and Technology*, 5(16), 4195-4199.
8. Bardoe, E. A., Pettit, T. M., De Cieri, H., & McMillan, L. (2014). Employee resilience: an emerging challenge for HRM. *Asia Pacific Journal of Human Resources*, 52(3), 279-297.
9. Barton, L. (1993). *Crisis in organizations: Managing and communicating in the heat of chaos*. Cincinnati, OH: South-Western Publishing Company.
10. Braun, T. J., Hayes, B. C., DeMuth, R. L. F., & Taran, O. A. (2017). The Development, Validation, and Practical Application of an Employee Agility and Resilience Measure to Facilitate Organizational Change. *Industrial and Organizational Psychology*, 10(4), 702-722.
11. Burnard, K. J. (2013). *Establishing the resilient response of organisations to disruptions: an exploration of organisational resilience* (Doctoral dissertation, Loughborough University).
12. Bosco, C. L. (2007). *The relationship between environmental turbulence, workforce agility and patient outcomes*. The University of Arizona.
13. Breu, K., Hemingway, C. J., Strathern, M., & Bridger, D. (2002). Workforce agility: the new employee strategy for the knowledge economy. *Journal of Information Technology*, 17(1), 21-31.
14. Bundy, J., Pfarrer, M. D., Short, C. E., & Coombs, W. T. (2017). Crises and crisis management: Integration, interpretation, and research development. *Journal of Management*, 43(6), 1661-1692.

15. Cai, Z., Huang, Q., Liu, H., & Wang, X. (2018). Improving the agility of employees through enterprise social media: The mediating role of psychological conditions. *International Journal of Information Management*, 38(1), 52-63.
16. Clark, J. (1995/1996). Hope for the best, but plan for the worst – the need for disaster planning. *Employment Relations Today*, 22(4), 41-53.
17. Griffin, B., & Hesketh, B. (2003). Adaptable behaviours for successful work and career adjustment. *Australian Journal of psychology*, 55(2), 65-73.
18. Dyer, L., & Shafer, R. A. (2003). Dynamic organizations: Achieving marketplace and organizational agility with people. *CAHRS Working Paper Series*, 27.
19. Fischbacher-Smith, D., & Fischbacher-Smith, M. (2014). What lies beneath? The role of informal and hidden networks in the management of crises. *Financial Accountability & Management*, 30(3), 259-278.
20. Gunasekaran, A. (1999). Agile manufacturing: a framework for research and development. *International journal of production economics*, 62(1-2), 87-105.
21. Gunasekaran, A., & Yusuf, Y. Y. (2002). Agile manufacturing: a taxonomy of strategic and technological imperatives. *International Journal of Production Research*, 40(6), 1357-1385.
22. Hosein, Z.Z. & Yousefi, A. (2012). The Role of Emotional Intelligence on Workforce Agility in the Workplace. *International Journal of Psychological Studies*, 4(3), 48-61.
23. Jin-Hai, L., Anderson, A. R., & Harrison, R. T. (2003). The evolution of agile manufacturing. *Business Process Management Journal*, 9(2), 170-189.
24. Kidd, P. T. (1994). *Agile Manufacturing Forging New Frontiers*. Addison-Wesley. Reading.
25. Lamin, A., & Zaheer, S. (2012). Wall Street vs. Main Street: Firm strategies for defending legitimacy and their impact on different stakeholders. *Organization Science*, 23(1), 47-66.
26. Lu, Y., & K. (Ram) Ramamurthy. (2011). Understanding the link between information technology capability and organizational agility: An empirical examination. *MIS Quarterly*, 931-954.
27. Qin, R., & Nembhard, D. A. (2010). Workforce agility for stochastically diffused conditions— A real options perspective. *International Journal of Production Economics*, 125(2), 324-334.
28. Mitroff, I. I., Shrivastava, P., & Udvardia, F. E. (1987). Effective crisis management. *Academy of Management Perspectives*, 1(4), 283-292.
29. Muduli, A. (2016). Exploring the facilitators and mediators of workforce agility: an empirical study. *Management Research Review*, 39(12), 1567-1586.
30. Muduli, A. (2017). Workforce agility: Examining the role of organizational practices and psychological empowerment. *Global Business and Organizational Excellence*, 36(5), 46-56.
31. 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.
32. Qin, R., & Nembhard, D. A. (2015). Workforce agility in operations management. *Surveys in Operations Research and Management Science*, 20(2), 55-69.
33. Roberts, N., & Grover, V. (2012). Investigating firm's customer agility and firm performance: The importance of aligning sense and respond capabilities. *Journal of Business Research*, 65(5), 579-585.
34. Roseline, M.B., & Monday, K.O. (2020) Crisis management and organization agility: theoretical review. *International Journal of Innovative Research and advanced studies*, 7(5), 5-12.
35. Safari, H., Maghsoudi, S., Keshavarzi, T., & Behrooz, A. (2013). A Conceptual Model for Agility Strategy and Work Organization by Structural Equation Modeling: A Case Study in the Iranian Textile Industry. *Business and Economic Research*, 3(1), 369.
36. Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS quarterly*, 237-263.
37. 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.
38. Seethamraju, R., & Sundar, D. K. (2013). Influence of ERP systems on business process agility. *IIMB Management Review*, 25(3), 137-149.
39. Sherehiy, B. (2008). *Relationships between agility strategy, work organization and workforce agility*. University of Louisville.
40. 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.
41. Sherehiy, B., & Karwowski, W. (2014). The relationship between work organization and workforce agility in small manufacturing enterprises. *International Journal of Industrial Ergonomics*, 44(3), 466-473.
42. Sohrabi, R., Asari, M., & Hozoori, M. J. (2014). Relationship between Workforce Agility and Organizational Intelligence (Case Study: The Companies of" Iran High Council of Informatics"). *Asian Social Science*, 10(4), 279.
43. Suofi, H., Hosnavi, M., & Mirsepasi, N. (2014). A study on relationship between workforce agility and knowledge sharing. *Management Science Letters*, 4(5), 1015-1020.

44. Swafford, P. M., Ghosh, S., & Murthy, N. (2008). Achieving supply chain agility through IT integration and flexibility. *International Journal of Production Economics*, 116(2), 288-297.
45. Walter, A. T. Organizational agility: ill-defined and somewhat confusing? A systematic literature review and conceptualization. *Management Review Quarterly*, 1-49.
46. Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733-769.
47. Youndt, M. A., Snell, S. A., Dean Jr, J. W., & Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of management Journal*, 39(4), 836-866.
48. Yusuf, Y. Y., Sarhadi, M., & Gunasekaran, A. (1999). Agile manufacturing: The drivers, concepts and attributes. *International Journal of production economics*, 62(1-2), 33-43.
49. Zain, M., Rose, R. C., Abdullah, I., & Masrom, M. (2005). The relationship between information technology acceptance and organizational agility in Malaysia. *Information & Management*, 42(6), 829-839.

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