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# The relationship between organizational agility, human resources flexibility and employee well-being: the mediation role of work-life balance

Nissreen Barakat

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# THESE DE DOCTORAT DE

L'UNIVERSITE DE RENNES 1

ECOLE DOCTORALE N° 597  
*Sciences Economiques et sciences De Gestion*  
Spécialité : *Sciences de gestion*

Par

**Nissreen BARAKAT**

**The relationship between organizational agility, human resources flexibility and employee well-being: the mediation role of work-life balance»**

Thèse présentée et soutenue à Rennes, le 08/11/2021

Unité de recherche : CREM (Centre de Recherche en Economie et Management) (UMR CNRS 6211)

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L'Université de Rennes 1 n'entend donner aucune approbation ni improbation aux opinions émises dans cette thèse ; ces opinions doivent être considérées comme propres à leur auteur.

## Dedication

I would like to dedicate this thesis to the soul of my beloved father...

Dad you left me in the middle of the Ph.D journey, but I know you are watching over me from above, waiting for the moment that I accomplish successfully this journey.

I love you dad, may your soul rest in peace.

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## **Chapter 1: Introduction to the Study**

This first chapter introduces the main purpose of this study, illustrates its background, the problem statement supporting the study, highlights why this research is important, covers what is previously known about the main variables in this research, and underlines the gaps by emphasizing what are not known about it. This chapter also provides the aim this study and why it is essential to explore and examine the proposed research model. Finally, this chapter discusses the significance of the study, the definitions of key terms, and the theories based on which the research model was built.

### **Overview**

Rapid technology advancement, increasingly changing sophisticated customers' demands, and aggressive competition in a volatile, uncertain, complex and ambiguous (VUCA) world have become our reality today, and that did not leave any option to organizations except developing their organizational agility which is considered as a dynamic capability that enable organizations to rapidly sense and respond to unpredictable changes occurring in such dynamic business environment ahead of their rivals (Teece et al., 2016, 2017). There is a general consensus in the literature affirming that agility is a fundamental strategy for business success and survival in face of fierce competition in complex, uncertain, turbulent and dynamic business environment (Chakravarty et al., 2013; Felipe et al., 2016, 2019; Nijssen and Paauwe, 2012; Tallon and Pinsonneault, 2011; Teece et al., 2016), where agility is recognized as the capacity of the organizations to sense opportunities through scanning and exploring the market, seize these opportunities by making the right decisions, and redeploy and reconfigure their resources to achieve competitive advantage and sustain in the market (Fayezi et al., 2017; Helfat et al., 2007; Teece, 2017). There is always a lingering question with regard to how effectively and

rapidly organizations can sense and respond to change and the responsibility of employees in attaining this goal.

Organizations operating in a VUCA world and dynamic environment are in interminable battle with time and inevitable constant change which oblige organizations to incessantly develop their adaptability, flexibility, responsiveness and competences at all levels to face the unpredictable changes in their business environment (Park et al., 2017; Felipe et al., 2019; Roberts and Grover, 2012). Since the early 90s the challenge of surviving and thriving in uncertain dynamic business environment has been prevalent subject, many solutions were proposed but numerous academics and professionals supported the aptness of adopting strategic agility in face of unpredictable changes as long as the organizations operate in unstable, turbulent and dynamic business environment (Gunasekaran, 1999; Overby et al., 2006; Zhang 2011). This is due to the cost of developing the organizational agility capabilities where their benefits and return on investment cannot be sensed except in such business environment (Teece et al., 2016). In extant research, organizational agility is recognized as an essential dynamic capability where its constructs are built based on the dynamic capability theory not only due to the dynamism of the business environment but also due to the vital need to constantly generate and renew the organizational resources as an incessant process in order to adapt to the environmental dynamism (Lee et al. 2015; Felipe et al., 2019; Tallon and Pinsonneault, 2011; Teece, 2017). These constructs are contributing in developing organizational agility and enabling organizational survival in VUCA world. It was indispensable to explore the determinants and antecedents of organizational agility, the drivers of agility and its enablers to understand which resources and demands are required to attain organizational agility. This is mainly due to two reasons: first, the characteristics of the business environment where agility is an inevitability are known to have negative effect on employees because in the literature

diverse research asserted that uncertain and changing working environment leads to negative consequences such as burnout, exhaustion, withdrawal, work-life imbalance. As for the second reason, to our knowledge, there are no previous research performed on the relationship between organizational agility and employee well-being and work-life balance. So, it is essential to explore the agility determinants, antecedents and practices to discover organizational agility relationship with both work-life balance and employee well-being. However, the interest to perform this research was amplified after recognizing the essential role human resources play in enabling organizational agility, as human resources are key enabler of agility.

It might be interesting to explore the characteristics of agile organizations and the employees working in such working environment, especially when working in agile organization is complex and cognitively exhausting due to the constant and sophisticated fast paced changing demands, which requires fast and effective response to change. Accordingly, this increases the uncertainty in the workplace and necessitates continuous adaptation from the employees to change and its consequences such as constant change in the work organization, job characteristics, job demands, utilizing advanced technology, changes in the job demands, responsibilities and tasks while quickly reconfiguring and moving from team to another in face change. Conversely, Sherehiy and Karwowski, (2014) suggested that working in agile organization will lead to prominent benefits because it is supposed to elevate the employees' autonomy and control over their jobs, while fortifying their responsibilities and competences, which successively will lead to improvement in their performance and well-being. Similarly, Charbonnier-Vorin (2011) hinted that there might be a relationship between organizational agility and employee well-being. Nevertheless, agile environment could be a double-edged sword that could positively or negatively affect the employees' well-being and work-life balance, especially if the organizational agility capabilities development practices are not

properly implemented within the organization. Agile organizations could be an opportunity to foster more flexible working environment, encourage autonomous self-directed teams that have control on their work, and enforce learning and knowledge sharing environment. However, the hasty pace of work and the urge to effectively yet timely respond to unpredicted changing business demands could also agitate feeling of uncertainty and job insecurity, subsequently, generate continues pressure that result in negative consequences on both the employee and the organization. Therefore, this research will assess whether employees in agile organization are able to adapt without any negative consequences, or if it is difficult to cope in such working environment and they suffer from work-life imbalance and exhaustion.

Now one might ask why would agile organizations care about employee work life balance and employee well-being? As stated earlier, in several research human resources are considered as one of the significant agility catalysts (Charbonnier-Vorin, 2011; Park et al., 2017; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). They play a vital role in reinforcing the organizations' proactivity and responsiveness to change through their skills and behavior while satisfying virtuous performance in a VUCA or dynamic environment (Alavi et al., 2014; Charbonnier-Vorin, 2011; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). The inevitability of change and uncertainty has correspondingly added new challenges to organizations, which are keeping the employees healthy and productive. Guest (2017) stated that changing working environment puts the organizations into jeopardy of drifting the employees' wellbeing, which lead to detrimental consequences for employees and consequently the organization. To that end, organizations realized the significance of heightening the employees' well-being (EWB) and work-life balance (WLB), while striving to reinforce their competitiveness in the market due to their foremost outcomes and their return on the organization and employee performance (Allen, 2001; Guest, 2017; Hill, 2005; Kossek et al.,

2014; Ryan and Kossek, 2008). Employee well-being is a vital prerequisite for performance (Bakker and Demerouti, 2014; Day and Nielsen, 2017; Robertson et al., 2012; Schaufeli et al., 2009; van De Voorde et al., 2012; Zheng et al., 2015).

In this perspective, it was essential to discover the characteristics of the employees working in agile organizations and enable the organizational agility capabilities and the practices that are conducive to workforce agility. Moreover, it is important to discover the crucial competences including the behaviors expected from them to possess in order to fulfill the job demands associated with developing organizational agility capabilities, in addition to the needed resources for them to fulfill these job demands. Moreover, according to job demand and resource (JD-R) model, job resources involve not only contextual resources but also personal resources (Bakker and Demerouti, 2007; Bakker et al., 2014). Therefore, it was important to explore the workforce as significant enabler of agility bearing in mind the dynamic capability nature of agility, which necessitate constant development of resources, in other words, constant development of workforce agility at the first place in order for them to contribute in developing organizational agility. Accordingly, it was also essential to explore and shed the light on the organizational and human resources practices adopted in agile organizations to ensure constant development of these resources. Furthermore, employees' proactivity, adaptability, flexibility and resilience are fundamental characteristics of the workforce contributing in developing organizational agility, and realizing that these behaviors also need relentless development, led to two facts. First, employees will not display these behaviors at the workplace unless they maintain positive psychological capital (Caniëls and Baaten, 2019; Luthans, 2012). Second, since these behaviors are developable and fundamental for workforce agility, then there is a great chance that the organizational practices in agile organization participate in fostering employees' positive psychological capital, which allow

them to show tolerance to ambiguity and uncertainty resulting from the unpredictability nature of the changing job demands in agile context (Nijssen and Paauwe, 2012; Parker et al., 2019).

Therefore, it was also essential not only to explore organizational agility and the practices that lead to developing the three main incorporated capabilities of agility, but also this research invigorated the interest to explore human resources flexibility and its contribution to keep the HR practices flexible and constantly aligned with any strategic changes in order to consequently keep the employees aligned with the internal changes resulting from sensing and responding to change and how it contributes in developing the employees flexibility. Therefore, human resources flexibility is the second independent variable in this study to explore the consequences of adopting flexible HR practices and developing employees' flexibility, as well as the relationship between HR flexibility and work-life balance and employee well-being. This is because it is now comprehensible that even though HR practices might have performance as the main goal, this will not be attainable in working condictiones similar to agile context unless work-life balance and employee well-being are maintained.

In line with that, organizations realized the significance of adopting HR flexibility that not only improves the employees' performance as conventionally believed, but also promote employee flexibility, by constantly aligning the HR practices to cope with any strategic changes. This will ultimately allow the employees to acquire neoteric competences, knowledge and information while constantly developing their proactivity, adaptability and resilience, which are considered as essential personal resources required in agile context. Basically, the acquisition of these resources complement the contextual resources provided by the organization and at the same time permit the employees to successfully fulfill their job demands.



To date, there is no consensus on one bundle of HR practices that promotes employee well-being and work-life balance. However, extant research claimed that practices focusing on improving employees' abilities, motivation and opportunity to contribute, ultimately lead to improved performance and well-being (Appelbaum et al., 2000; Guest, 2017; Jiang et al., 2017; Subramony, 2009). Since our study environment is agile, we are motivated to explore the flexibility of the HR practices and its effect on EWB and WLB. Specifically, there is adverse consequences of overlooking them on the employees and accordingly on the organization (Guest, 2002, 2011, 2017; Jiang, 2017; Khoreva and Wechtler, 2017; Van de Voorde et al., 2011).

Moreover, several studies revealed that organizations operating in dynamic environment need HR flexibility (human resources skills and behaviors and HR practices) to be able to trigger its responsiveness to competitive changes (Way et al., 2017). Many authors claimed that human resource (HR) flexibility is one of the capabilities needed to build organizations' capacity to respond effectively and quickly to the environmental changes (Chang et al. 2012; Eisenhardt and Martin, 2000; Teece et al., 1997; Zollo and Winter, 2002). Others emphasized that HR flexibility is a key factor to organizational financial effectiveness in dynamic environments (Ketkar and Sett, 2009, 2010; Lepak et al., 2003). Consequently, we are raising another question: whether there is a difference between the organizational agility development practices and HR flexibility effect on employee work life balance and well-being and what is the relationship between HR flexibility and employees' work life balance and well-being? Does HR flexibility play a moderator role in the organizational agility and EWB and WLB relationship? Despite interests among academics and practitioners in organizational agility, there is an observable gap in the literature about the role of HR flexibility in fostering the capabilities and flexibility of the workforce in agile organization. Although HR practices play

a vital role in augmenting the employee well-being and work-life balance in general, we need to explore its role specifically in agile organizations operating in dynamic environment. To date, only few authors explored organizational agility in the HR context (Breu, et al., 2001; Griffin and Hesketh, 2003; Dyer and Ericksen, 2006; Dyer and Shafer, 1998). Furthermore, to our knowledge, there is no article on employee well-being and work-life balance in organizational agility environment specifically in the information, communication and technology industry (ICT).

There are various examples of the latest overwhelming ICT advancement, for instance; artificial intelligence, Internet of Things (IoT), augmented reality, virtual reality, big data and machine learning. We can simply witness the impact of digitalization on our daily life nowadays, for example self-driven cars, smart homes and smart cities, augmented reality and its role in training and education in different industries. Currently, industry 4.0, one of the ICT dazzling mutations, is mainly digitization of the manufacturing sector by transforming manufacturing factories into smart factories. All these ratify the ubiquitous influence and the pivotal role of the ICT industry on reshaping the whole world incorporating other industries at exponential pace. Additionally, the literature revealed the vital role IS/IT plays as an enabler for agility (Chakravarty et al., 2013; Lee et al., 2015; Lu and Ramamurthy, 2011; Overby et al., 2006; Roberts and Grover, 2012; Sambamurthy et al., 2003; Sharifi and Zhang, 1999; Tallon and Pinsonneault, 2011). Therefore, due to the significance of the ICT industry and its relentlessly changing nature, one can assume that this industry is portrayed as a VUCA and dynamic business environment. Therefore, organizational agility is a crucial capability essential for ICT companies to sense and respond effectively to the change. Additionally, ICT companies need competent workforce to reinforce its flexibility and adaptability towards this change. However, an urgent question that arises when thinking of the working environment in

such organizations is, to what extent working in dynamic business environment has an effect on the employees' well-being (EWB) and work-life balance (WLB)? The constant changing and uncertain nature of such working environment, would it lead to a negative influence on the employees' well-being and work-life balance? Or on the contrary, it will have a positive and stimulating effect on the employees. Moreover, would the presence of HR flexibility, which stipulates that HR practices provide working conditions and select competent employees who fit for agile organization, improve the EWB and WLB or not?

In addition to selecting the ICT industry to conduct this research, the sample of this study was selected from Egypt because since 2011 it is facing constant changes and came through several uncertainties and instabilities not only politically but also economically. This makes the general climate in the country a VUCA world, which indeed has direct and indirect influence on the personalities of the individuals in this study and their readiness to work in an unpredictable constant changing working environment. Henceforth, this is in itself contributing to creating and developing the workforce agility attributes necessary to actually participate in enabling organizational agility.

In summary, the focus in this dissertation is different from previous researches, as predominantly the focus was on the IT capabilities or knowledge management capabilities rather than addressing the significant role of organizational agility and HR flexibility as a crucial capability necessary for agile organizations to sustain competitiveness, especially in rapidly and unpredictable changing environments while examining whether their practices have positive or negative relationships with employee work life balance and well-being. Several researchers emphasized the need for agile organizations to develop adaptable workforce to cope with unpredictable changes, but to our knowledge no research so far was conducted on the

employee work life balance and employee well-being in agile working environment. Furthermore, only few articles were found on the effect of agile strategies on the employees' performance (Sherehiya and Karwowsk, 2014) but to our knowledge there is no research exploring the EWB and WLB in an agile organization. Lastly, our study contributes to the literature by focusing on the organizational and individual levels inside the organization.

### **Background to the problem**

Prior research affirmed that organizational agility equips organizations with capabilities that make them extensively flexible, adaptable, competitive and rapidly responsive to market alterations and opportunities, while remaining robust in face of uncertainty and turbulence of the business environment (Sherehiy et al., 2007; Teece et al., 2016; Tseng and Lin, 2011). Agile organization can sense market changes rapidly, transform the change into opportunity or create the need for a change itself, and align internal strategies, systems, processes and resources to provide relevant response to seize those opportunities in the market. Based on previous research, organizational agility enables organizations to be in a superior position to outperform their competitors by initiating creative and innovative solutions to create innovative products and services, or relatively modify the present ones to constantly face the unpredictable changes in customer demands (Charbonnier-Vorin, 2011; Park et al., 2017; Sambamurthy et al., 2003; Teece et al., 2016). This is why a majority of the previous research focused on exploring and examining the effect of organizational agility on performance, innovativeness, competitiveness of the organization and its productivity (Felipe et al., 2019; Tallon and Pinsonneault, 2011; Vazquez-Bustelo et al., 2007). On the other hand, numerous studies were conducted on the determinants and antecedents of organizational agility, the elements that contribute in developing and fostering organizational agility. Consequently, organizational agility as an inevitable capability is considered a key driver for attaining competitive advantage to sustain in uncertain and highly dynamic business environment (Almahamid et al., 2010; Nijssen and

Paauwe, 2012; Teece et al., 2016; Teece, 2017). Therefore, organizational agility has received growing consideration in research and practice.

Prior research showed that people are considered one of the fundamental enablers of organizational agility and indicated the significance of workforce agility as a prerequisite for heightening organizational ability to sense and respond to change (Alavi, 2014; Sherehiy et al., 2007). According to previous research and professionals, organizational agility is vital for organizations to stay profitable, capable to effectively realize new innovations and attain competitive advantages in an uncertain, turbulent and dynamic business environment (Chakravarty et al., 2013; Felipe et al., 2016, 2019; Lu and Ramamurthy 2011; McCann et., 2009; McKinsey, 2010; PMI, 2012; Sambamurthy et al. 2003; Tallon and Pinsonneault, 2011; Teece et al., 2016). Working in an agile organization entails constant changes in job demands, which raises a constant need for rapid adaptation and reconfiguration of the workforce in response to change. This consequently elevates uncertainty and instability at work (Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). Based on previous research findings, changing uncertain environment is positively correlated with stress and turnover, while negatively correlated with job satisfaction and organizational commitment (Rafferty and Griffin, 2006; Wisse and Sleebos, 2015).

Several studies in the literature developed conceptual models for agility to demonstrate the conditions and situations that lead an organization to adopt strategic agility and seek to develop its organizational agility capabilities, the models incorporate the key enablers of agility, while progressively in extant studies agility practices and main elements were added to the models with focus on fundamental resources and infrastructure to maintain sustainable organizational agility (Breu, et al., 2001; Charbonnier-Voirin, 2011 ; Dubey and Gunasekaran,

2014; Eshlaghy et al. 2010 ; Kassim & Zain, 2004; Lin, et al., 2006; Vázquez-Bustelo et al., 2007, Tseng and Lin, 2011, Yusuf, et al., 1999 ; Zhang, 2011). Therefore, due to the realization of the essential role of workforce agility in enabling organizational agility, several studies were conducted to uncover the requisite competences and aptitude of people that fit in agile organization in order to aptly contribute in developing organizational agility capabilities, while at the same time highlighted the organizational context and practices that prompt workforce agility to quickly sense and respond to change, and enable workforce to accomplish frequently changing job demands resulting from the change (Alavi et al., 2014; Bottani, 2010; Breu, et al., 2001; Crocitto and Youssef, 2003; Dyer and Shafer, 2003; Dyer and Ericksen, 2006; Griffin and Hesketh, 2003; Nijssen and Paauwe, 2012; Park et al., 2017 Qin and Nembhard, 2015; Sherehiy et al, 2007; Sherehiy and Karwowski, 2014). In sum, when organizations constantly develop the employees' knowledge skills and abilities together with motivating and empowering employees manage their work by their own discretion, workforce agility would certainly ensue.

Whilst organizational change and changing business environment are not new phenomenon and there is sufficient research conducted on this subject and its effect on the employee well-being. However, agility is different and the organizational practices that develop the organizational agility to handle change are also different. Nevertheless, three of the main discernible differences are: first, the characteristics of the business environment where agility is inevitably different because the uncertainty, turbulence and dynamism in agile context are enormously exponential and the change in pace is really fast and unpredictable which forces organizations and employees to unceasingly adapt to new circumstances. Second, agility is not destined to be only reactive, but is a capability that fosters the organizational proactivity in sensing the unpredictable change before it hits the organization, while organizations are in

continuous strive for adaptation as it is not considered as an unrepeatable act but as an incessant process. Third, the time factor is very crucial in agile context, so organizations need to respond rapidly to change where the response is expected to be effective and quality safeguarded. Consequently, the practices adopted to develop organizational agility capabilities are different and the characteristics of the workforce in agile organizations are also distinctive (Alavi et al., 2014; Schilke, 2014; Sherehiy and Karwowski, 2014; Teece et al., 2016; Teece, 2017). Thereby, it was essential to conduct this research to fill this gap in research and contribute by finding an answer to whether organizational agility has a negative or positive effect on the employee's well-being. It was also important to explore whether working in agile organizations is exhausting and overwhelming for employees working in such working environment due to the constantly changing job demands, or the organization is providing the necessary resources and support to maintain satisfactory employee's well-being.

In the same vein, it was also indispensable to explore how organizations develop employees' flexibility and if employees working in dynamic environment are inheritably flexible and adaptable or organizations play a role in developing their flexibility. Particularly, since employees are considered as one of the vital enablers of agility, they should be the foremost priority for agile organizations. This in turn triggered the interest to explore human resources flexibility as it is considered itself as an imperative dynamic capability that plays essential role in aligning the HR practices to cope with any strategic changes in dynamic environment, participate in developing employees' flexibility and motivate them to display desirable behaviors that foster the organizational responsiveness to change. Accordingly, this also triggered our interest to explore and examine the relationship between HR flexibility and employees' work life balance and employee well-being. Employees will not display proactive, adaptive, resilient behaviors and demonstrate flexibility at the workplace unless they are

psychologically empowered and have strong sense of self-determination (Moller et al., 2006; Beltrán-Martin and Roca-Puig, 2013).

## **Theories**

Prior research in the literature recognized organizational agility as one of the significant dynamic capabilities that is conducive to attaining sustainable competitive advantages and ensures thriving and surviving in highly dynamic business environment (Felipe et al., 2016, 2019; Nijssen and Paauwe, 2012; Teece et al., 2016). Initially, Teece et al. (1997) introduced the concept of dynamic capability as the organizational ability to integrate, build and reconfigure its internal and external competencies in order to face rapidly unpredictable changing environment. In agreement, Helfat et al. (2007) specified that dynamic capability is the capacity of an enterprise to firmly create, extend or modify and reconfigure its resources base. Therefore, the added value dynamic capabilities generate as a competitive advantage resides not only in creating the existing capabilities but also in the ability to constantly reconfigure and renew the resources generated to continually adapt to change occurring in the business environment or initiate the change itself. The three main high-level capabilities that constitute dynamic capabilities are: sensing, seizing and reconfiguring (Teece, 2007; Teece et al., 2016). Sensing is the ability to scan the business environment to identify any opportunities or threats that might occur externally or internally. Seizing is conceived as the organizational ability to make timely and effective decisions to capture these opportunities or dodge threats that might be detrimental for the organization. Finally, reconfiguring is considered the organizational ability to rapidly improve, integrate, align and reorganizing organizational resources, strategies, structure, process, polices, etc. to adapt and respond to change (Teece, 2007; Teece et al., 2016). In this perspective, successful organizations in dynamic environments are constantly able to generate and recombine resources in original and innovative ways (Eisenhardt and Martin 2000; Eisenhardt et al., 2010; Helfat and Peteraf, 2009, Teece et al.



1997; Teece, 2007). This matches exactly the definition of organizational agility and the expectation from developing its capabilities (Lee et al., 2015; Park et al., 2017; Teece et al., 2016; Teece, 2017).

Understanding the main constructs of dynamic capabilities and exploring how these capabilities are developed, Eisenhardt et al. (2010) explained the microfoundations of dynamic capabilities and their role in developing the three main constructs of dynamic capabilities. Microfoundations are conceptualized as “the underlying individual-level and group-level actions that shape strategy, organization, and, more broadly, dynamic capabilities” (Eisenhardt et al., 2010, p. 1263). Moreover, Teece (2007, p. 1319) emphasized that microfoundations are “the distinct skills, processes, procedures, organizational structures, decision rules, and disciplines which undergird enterprise-level sensing, seizing, and reconfiguring capacities” This is principally why in this research we explored how individuals at the individual level and in collaboration with their teams contribute in developing the organizational agility. We also explored what does it entail to attain this objective? In other words, we explained the necessary demands and resources including the competences, abilities and cognitive abilities required in the workforce to effectively contribute as an essential microfoundation of dynamic capabilities. This is consistent with agility research where there is general consensus that employees are one of the essential enablers of agility and that organizational agility is the inevitable dynamic capability for organizations to survive in uncertain, turbulent and dynamic business environments (Lee et al., 2015; Felipe et al., 2016, 2019; Park et al., 2017; Roberts and Grover, 2012; Teece et al., 2016).

In the same vein, human resources flexibility is considered as an essential dynamic capability that allow the organization to adapt to changing business environment emergencies

(Camps et al., 2016; Teece, et al., 2016; Úbeda-García et al., 2017). HRF is identified as a substantial competency of the organization to predict or react to changes in dynamic competitive environments and hence develop and preserve competitive advantage over competitors (Ketkar and Sett, 2009, 2010; Teece, 2007; Tracey, 2012; Wright and Snell, 1998). HRF is determined by the versatility of the organization's HR practices and employees' competences (skills and behaviors) and the large number of alternative uses of these practices and competences. This postulates HR flexibility as an essential factor of strategic flexibility that fosters the organizational capability to efficiently align its resources, foster the human resources capacity, motivate employees to display proactive and adaptive behaviors when challenged with changing conditions and provide them the opportunity and autonomy to control their jobs, redesign and introduce adjustment to the work organization (Bhattacharya et al., 2005; Camps et al., 2016; Ketkar & Sett, 2010; Way et al., 2015). From all aspects, HR flexibility (HRF) contributes to developing the organization's dynamic capabilities as it enables the organization to adapt to turbulent and dynamic environment by adapting employees' knowledge, skills and behaviors to rapidly changing business environment (Camps et al., 2015; Ketkar and Sett, 2009; Tracey, 2012; Úbeda-García et al., 2016, 2017; Way et al., 2017). This is attainable through providing wide range of alternative uses of the organizations' resources and diverse ways to rapidly acquire, deploy, redeploy and develop the resources at minimal costs. Accordingly, employees will be able to deliver wide range of strategic alternatives to the organization to maintain sustainable competitive advantage in dynamic business environment and to always provide new options and solutions to the customers (Ketkar and Sett, 2010; Tracey, 2012; Úbeda-García et al., 2016, 2017; Way et al., 2015). Accordingly, HR flexibility is not only about acquiring and selecting flexible workforce, but also about constant regeneration of the employees' skills and knowledge and stimulate desirable behaviors that motivate them to demonstrate flexibility in response to change (Úbeda-García et al., 2017; Way

et al., 2015, 2017). Therefore, HR flexibility is a necessity in highly dynamic industries due to the immense need for employees with wide range of skills and behaviors repertoire and the ability of the HR practices to effectively and rapidly reconfigure the human resources in response to unforeseen changes (Martínez- Sánchez et al., 2011; Tracey, 2012).

Moreover, JD-R model facilitated exploring the relationship between the independent variables and the dependant variables adopted in this study. Extant research exploited JD-R model to predict employees' work life balance and employee well-being because JD-R model elucidated that all types of work characteristics can be categorized into job demands and job resources, where job demands are the health impairment process and job resources are the motivational process (Bakker et al., 2014). Greenhaus et al. (2003) claimed that job demands and resources implied in employees' job could shape their capacity to achieve work life balance. Besides, OECD (2018) stated that work-life balance is conducive to employees' quality of life. Hence, work-life balance itself is considered as a resource that buffers the impairment effect of job demands as job stressors on employees' well-being.

Initially JD-R model classified work characteristics into two divergent categories. On the one hand, job demands denote the physical, social or organizational facets of the job that involve physical or psychological efforts causing certain psychological consequences (Van den Broeck et al., 2008). Job demands involve aspects for example time pressure, workload, changing demands and exhausting work conditions, which force employees to exert more efforts to address job demands and this could cause negative physical and psychological consequences that distress employees and these factors are showed to be associated with stress, especially if it surpasses employee's capacity to cope (Crawford et al., 2010). Therefore, job demands are known as health-impairing process that predicts exhaustion and burnout (Bakker

and Demerouti, 2017; Bakker and Demerouti, 2007; Schaufeli and Taris, 2014; Schaufeli et al., 2009).

On the other hand, job resources refer to the physical, psychological, social or organizational aspects of work that enable employee to fulfill job demands, achieve work goals, stimulate personal growth and decrease health impairing effect of the job demands. Examples of job resources are social support, autonomy, control, skill variety, feedback provision, learning and development opportunities. Therefore, job resources are known as the motivational process that stimulate work engagement and decrease stress perception. The model illustrated that high job demands would lead to depleted energy that could eventually cause emotional exhaustion and burnout, hence negatively affect the employee's well-being, while high job resources could promote work engagement which ultimately foster employee's well-being (Bakker and Demerouti, 2017; Bakker et al., 2011). The model later evolved and incorporated personal resources as part of the job resources. The main constituents of personal resources is revealed in their positive self-evaluation and psychological capital which stem from their ability to have control and influence on their environment effectively, personal resources play similar role in mitigating the adverse effect of the job demands and contribute in motivating employees' engagement in handling job demands (Bakker and Demerouti, 2017; Luthans et al., 2007; Xanthopoulou et al., 2007, 2013).

Although job demands are considered as work stressors, Podsakoff et al. (2007) claimed that job demands could be perceived as hindrance or challenging. Similarly, LePine et al. (2005) stated that job demands could be good or bad. The job demands are considered hindrance that thwart employees from attaining their work goals and negatively affect work-life balance and their occupational health. However, job demands are considered challenging when they

contribute to stimulating employee personal growth and career advancement (Crawford et al., 2010). That is why hindrance demands result in emotional exhaustion and burnout, while challenging demands result in amplified work engagement and stimulate positive initiatives and job outcomes because employees might perceive these challenges as valuable opportunities and willingly choose to address those demands differently and change their approaches and behaviors to effectively fulfill their job demands (Bakker and Sanz-Vergel, 2013; Crawford et al., 2010; Demerouti, 2014; van Woerkom et al., 2016). Therefore, JD-R model was very expedient to examine the relationship between organizational agility, human resources flexibility as this study identified the job demand and resources embedded in developing the organizational agility capabilities, the personal resources of the workforce participating in developing these capabilities and how the organizational practices participated in constantly developing and maintain these resources. Moreover, the mediation role of work-life balance was supported by the model as work life-balance is consider as a resource that contribute to buffering the negative effect of job stressors on employee well-being.

### **Focus of the study**

Overall, this study focuses on exploring the relationship between organizational agility, human resources flexibility and employee well-being considering the mediation role of work-life balance. The study hence aims to cover the research gap in this area because to our knowledge there are no previous work conducted to explore work life balance and employee well-being within agile context. What made this research interesting yet challenging is that there are a lot of contradictions and ambiguous areas that left us undecided at first whether the characteristics of the business environment where agility is inevitable could lead to positive or negative outcomes from an organizational and individual perspective. Also, previous research on organizational change, uncertain, turbulent working environment commonly showed negative consequences on employees' psychological health and their work-life balance, besides

majority of previous research in agility mostly explored the influence of agility on performance and innovation, so there was no previous work to compare with or to start from.

However, Sherehiy and Karwowski (2014) in their work suggested that agility could be conducive to employee well-being and that was motivational. Therefore, the focus in this research is first to explore the organizational practices and workforce role in developing organizational agility capabilities. Then this study explores the characteristics of both agile organizations and agile workforce and how workforce agility is maintained and developed because workforce possess personal resources that contribute in fulfilling the job demands and mitigate the impairment effect of job stressors. Of course we explored the job demands entailed in developing the organizational agility capabilities and what is required from the workforce to perform their jobs. Moreover, since employee's flexibility is a main element of the workforce agility and essential attribute that enable employees to adapt and respond to change, exploring HR flexibility and its role in aligning the HR practices to the environmental changes and similarly develop the employee's flexibility and motivate them to display desirable behaviors that eventually contribute to fostering organizational responsiveness to change were also essential areas to explore. Finally, this study examines the mediation role of work-life balance in the relationship between organizational agility and employee well-being and HR flexibility and employee well-being. These will provide an insight for academics and practitioners on methods to promote employee well-being and work-life balance in agile context and propose agile organizational practices that could be considered as a bundle that could be embraced by organizations to kill two birds with one stone, by developing organizational agility while at the same time promoting work-life balance and employee well-being, which in turn increase the organizational competitive advantage.

## Research Objectives

The main goal of this study is to investigate the relationship between organizational agility and employee well-being, and whether work-life balance plays a mediation role in this relationship or not. Similarly, this study investigates the relationship between human resources flexibility and employee well-being, and whether work-life balance plays a mediation role in this relationship or not.

The main objectives of the study are as follows:

- To identify whether or not there is a relationship between organizational agility capabilities and employee well-being in highly dynamic business environment such as ICT industry.
- To identify whether or not there is a relationship between organizational agility capabilities and work-life balance in highly dynamic business environment such as ICT industry.
- To examine the mediation role of work-life balance in the relationship between organizational agility capabilities and employee well-being.
- To identify whether or not there is a relationship between human resources flexibility and employee well-being in highly dynamic business environment such as ICT industry.
- To identify whether or not there is a relationship between human resources flexibility and work-life balance in highly dynamic business environment such as ICT industry.
- To examine the mediation role of work-life balance in the relationship between human resources flexibility and employee well-being.
- To fill the gap in this area by exploring employee work-life balance and employee well-being in agile context and to provide an insight on how to promote them in highly dynamic business environment such as ICT industry.

## **Organization of the study**

The structure of this study is as follows: in the next section (chapter 2), we start with a thorough review of the relevant literature of the adopted variables in this research based on which the third chapter is developed. The third chapter covers the research questions and hypotheses development leading to the research conceptual model. Afterwards, chapter four describes details about the research methodology in this study leading to chapter five where the research results are reported and explained. Finally, chapter six presents a thorough discussion and conclusion of this research, also provides an outline of future research opportunities by highlighting, the challenges and limitations faced during conducting this research as an opportunity that might need to be addressed in the future.

## **Summary**

In this chapter, an introduction to the study was provided. Particularly, an overview of the study, the background to the problem and introduction to the theories are presented. In a nutshell, the dynamism of the business environment and the fast-paced unpredictable change left organizations with no option but to be agile in order to foster their capabilities to sense and respond to change. Employees are an essential factor in enabling agility and specific competences, behaviors and attitudes are expected from them to contribute in sensing and responding to change. HR flexibility contribute in developing the employees' flexibility and motivate them to heighten the organizational responsiveness to change employees but would characteristics of the business and working environment force organizations to compromise the employee's work-life balance and well-being or not? The ICT industry is a very dynamic business environment where the change frequency is very high and unexpected which leads to high disruption. Also, this environment necessitates highly competent, knowledgably and innovative yet agile workforce. Therefore, this research was conducted on a sample of people



working in ICT industries in Egypt. Specifically, the country is facing fast-paced change in different fields, for instance economically and politically, so the choice of the country was suitable and considered as a fertile land for this research. The main purpose of this study was to examine the relationships between organizational agility, HR flexibility (the independent variables IV) and employee well-being (dependent variable DV) in the mediation role of work-life balance in this relationship within a sample of employees working in ICT companies in Egypt. In Chapter two, the review of the literature on all the variables adopted in the research model will be presented in detail, including the definitions of the key terms and the theories based on which this research was built on.

## **Chapter 2: Literature Review**

This section covers the literature review in four core topics: 2.1 Organizational Agility (OA), 2.2 Human Resources Flexibility (HRF), 2.3 Work-life Balance (WLB), and 2.4 Employee Well-being (EWB). In these sections, the concepts' definitions, background theories and main constructs are presented and explained. Precisely, in sections 2.1 and 2.2, the antecedents and practices of agile organizations are illustrated in order to extrapolate and infer the links between the independent variables (OA and HRF) and the dependent variables (WLB and EWB), especially when there is no article covering the 4 variables altogether and to date there are no research on the relationships between organizational agility and the dependent variables (WLB and the EWB).

Research on the university library and digital online sources of academic journals related to strategy, management, human resources management, information system and supply chain are conducted to find relevant literature on diverse search engines like Google scholar, EBSCO host, Emerald insight, Science Direct, SpringerLink, Sage journals. In each source, the main key words are used to search for relevant articles: organizational agility, HR flexibility, employee well-being, work-life balance, dynamic capability, job demand and resource model (JD-R model) and all relevant key words as an initial key search in the title of the article or the key words provided by the authors. Thenceforward, we started to look for the subscales, synonyms or the closest words and meanings of the main concepts and theories.

### **Organizational Agility (OA)**

Due to the startling rise in uncertainty and rapid changes facing organizations today, whether due to disruptive technologies, changes in customers' demands, fierce competition,

changes in the workforce nature (generation y and generation z), and COVID-19, operating in dynamic, volatile, uncertain, complex and ambiguous (VUCA) business environment businesses need to cope with the challenges and continuity. There is a persistent question with regard to the organizations' ability to rapidly sense and respond to such unforeseen rapid changes and survive in their business environment. In other words, what do organizations do in order to thrive and survive in such business environments? How do they ensure their sustainability in front of all these challenges without collapsing or adding additional pressure on their human resources to face such challenges? How do organizations support their employees to endure work stressors resulting from the uncertainty resulting from the unpredictability and rapidity of the change? And, what is the role of the employees in actually fostering the organizational capabilities to face such challenges and respond to it?

Teece et al. (2016) emphasized that organizations ought to save no cost to be agile, to develop their capability to sense the changes, seize the opportunities and reconfigure their resources in response to change. They asserted that organizational agility is specifically substantial for organizations operating in dynamic business environments as it enables them to sense and respond to fast-paced unforeseen changes.

An organization's survival in turbulent business environment is extensively deemed as a result of being agile (Wilden et al., 2013). Felipe et al. (2016) asserted that organizational agility is crucial for organizations' survival and success in turbulent business environment as it enables them to sense and respond to change. Similarly, Dyer and Shafer (2003) stated that organizations need to be agile if they aspire to become ahead of rivals in detecting potential opportunities and dodging rising threats. In the same vein, Sharifi and Zhang (1999) stated that an agile organization can transform a change into an opportunity. This is what we can observe

nowadays, such as the rise of e-learning, online businesses and e-commerce in response to COVID-19 and the lockdown period. Organizational agility is one of the utmost prevalent solutions for organizations operating in highly competitive, uncertain and turbulent business environments, it permits them sense and respond to opportunities and challenges in the market and sustain highly competitive performance (Charbonnier-Voirin, 2011; Felipe et al., 2016; Felipe et al., 2019; Sherehiy and Karwowski, 2014; Teece et al., 2016), thus foster sustainable profitability (Qin and Nembhard, 2015). Agility is therefore an exigency rather than a strategy or an objective (Alavi, 2014). Usually, organizations struggle when the rate of uncertainty in their business environment exceeds their ability to manage; however, agile organizations are distinguished by their ability to embrace uncertainty and realign their strategies, resources and processes to adapt to it (Nijssen and Paauwe, 2012).

Several authors claimed that agile organizations were able to stay competitive and profitable over their rivals during turbulent and unstable times, especially in a VUCA world (McCann et al., 2009; McKinsey, 2010; PMI, 2012). Similarly, it was shown that organizational agility has favorable impact on the organizational competitive advantage (Almahamid et al., 2010) and the organizational business performance (Felipe et al., 2019; Tallon and Pinsonneault, 2011; Vazquez-Bustelo et al., 2007), especially in highly dynamic business environments and highly uncertain turbulent environments (Nijssen and Paauwe, 2012).

Since the Iacocca report in the early 90s, agility has subsequently emerged and originated in the manufacturing context as an approach to enable firms facing fierce competition and uncertainty (Yusuf et al., 1999). The American manufacturing industry was searching for a solution to face the Asian competitors, especially after their adoption of flexible manufacturing system. They realized that mass production is not sustainable in VUCA and

dynamic markets anymore and agility is necessary to thrive in such business conditions (Dove, 2001; Gunasekaran, 1999; Sharifi and Zhang, 2001; Yusuf et al., 1999). Subsequently, research began with agile manufacturing (Bessant et al., 2002; Dubey and Gunasekaran, 2014; Gunasekaran and Yusuf, 2002; Jin-Hai et al., 2003; Lee et al., 2006; Manthou et al., 2001; Sharp et al., 1999; Vázquez-Bustelo et al., 2007; Yusuf et al., 2004; Zhang, 2011; Zhang and Sharifi, 2007) and then organizations started to develop their agility capabilities in other areas, such as information technology/systems (Breu et al., 2001; Chakravarty et al., 2013; Felipe et al., 2019; Lu and Ramamurthy, 2011; Nazir and Pinsonneault, 2012; Overby et al., 2006; Park et al., 2017; Ravichandran, 2017; Roberts and Grover, 2012; Sambamurthy et al. 2003; Tallon and Pinsonneault, 2011; van Oosterhout et al., 2006), supply chain (Christopher, 2000; Fayezi et al., 2016; Gligor and Holcomb, 2012; Li et al., 2009; Lin et al., 2006; Ngai et al., 2011; Qrunfleh and Tarafdar, 2013), human resources management (Charbonnier-Voirin, 2011; Crocitto and Youssef, 2003; Dyer and Ericksen, 2006; Dyer and Shafer, 2003; Shafer et al., 2000; Doz, 2019; Heilmann et al., 2018; Nijssen and Paauwe, 2012), workforce agility (Alav et al., 2014; Breu et al., 2001; Dyer and Ericksen, 2006; Hopp and Van Oyen, 2004; Qin and Nembhard, 2010; Sherehiy and Karwowski, 2014; Sumukadas and Sawhney, 2004) and enterprise agility (Tseng and Lin, 2011; Sherehiy et al., 2007; Worley and Lawler III, 2010; Yang and Liu, 2012).

Sharifi and Zhang (1999) developed one of the initial conceptual frameworks of agile manufacturing based on four core categories: the conditions or the drivers that urge organizations to pursue organizational agility, the main driving forces for agility is usually the change itself (Lin, et al., 2006; Sharifi and Zhang, 1999; Sharifi, et al., 2001), capabilities that are required to face the change (Amos, 2000; Lin et al., 2006; Sharifi and Zhang, 1999; Sharifi

et al., 2001; Yusuf et al., 1999 ), and finally the agility providers or enablers of agility (Dyer and Shafer, 1999; Sharifi et al., 2001; Lin et al., 2006).

Later, Sharifi and Zhang (2001) refined the framework to incorporate two main dimensions, the assessment of the organizations' current agility level and their need for agility. This framework became the foundation for several researchers who expanded into diverse business areas, and cover practices that stipulate the required capabilities for an organization to be agile and respond pertinently to change (Charbonnier-Voirin, 2011; Vázquez-Bustelo et al., 2007). Table 1. is an overview for the main agility frameworks in the literature for comprehensive view about the main constituents of organizational agility.

Table 1

*Overview For the Main Agility Frameworks*

<b>Organizational agility elements</b>	<b>Constituents of organizational agility</b>	<b>Reference study</b>
Agility drivers	Turbulence, complexity, uncertainty, dynamism in the business environment, market growth, changes in the customers' demands, hostility- fierce competition, Disruptive technology, technological innovations, unpredictable rapidly changing	Bottani, 2010; Charbonnier-Voirin, 2011; Eshlaghy et al. 2010; Lin, et al., 2006; Sharifi and Zhang, 1999; Sharifi, et al., 2001; Teece et al., 2016; Vázquez-Bustelo et al., 2007; Tseng and Lin, 2011; Zhang, 2011

	<p>business environment</p> <p>(internally or externally),</p> <p>Social factors and changes in politics.</p>	
<p>Agility capabilities/dimensions</p>	<p>Sensing (proactiveness),</p> <p>seizing and reconfiguring</p> <p>(responsiveness, adaptability, flexibility, competencies, cooperation, innovation, organizational learning and knowledge management),</p> <p>quality and profitability.</p>	<p>Amos, 2000; Bessant et al., 2001; Breu, et al., 2001; Charbonnier-Voirin, 2011; Crocitto and Youssef , 2003; Lin, et al., 2006; Sharifi and Zhang, 1999; Sharifi, et al., 2001; Vázquez-Bustelo et al., 2007; Yusuf, et al., 1999; Zhang, 2011.</p>
<p>Agility enablers</p>	<p>Human resources - multiskilled agile workforce, information technology,</p> <p>Organization structure and processes.</p>	<p>Charbonnier-Voirin, 2011; Dubey and Gunasekaran, 2014; Dyer and Shafer, 1999; Lin, et al., 2006; Sharifi and Zhang, 1999; Sharifi et al., 2001; Vázquez-Bustelo et al., 2007; Zhang, 2011.</p>

<p>Agility characteristics and practices based on strategic area (human resources, information technology, customers, cooperation and mastering change)</p> <p>1. Human resources/workforce</p>	<p>Performance evaluation and recognition</p> <p>Reward systems to stimulate innovation – (extrinsic and intrinsic measures),</p> <p>Employee contribution in decision- making process</p> <p>Continuous skills improvement and training, cross-training, Knowledge sharing, Creativity and unceasing development, Autonomy,</p> <p>Employee empowerment and involvement/ knowledge workers, managerial and coworkers support, Decentralized decision making,</p> <p>Entrepreneurial firm culture,</p> <p>Delegation of responsibilities,</p>	<p>Bessant et al., 2002; Breu, et al., 2001; Charbonnier-Voirin, 2011; Dubey and Gunasekaran, 2014; Dyer and Shafer, 1999; Gunasekaran, 1999; Kassim and Zain, 2004; Vázquez-Bustelo et al., 2007; Zhang, 2011</p>
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	<p>Team working, cross-functional teams, self-directed teams,</p> <p>multifunctional workforce,</p> <p>Job rotation,</p> <p>Job enrichment</p> <p>Developing flexible human resources</p>	
<p>2. Information Technology, Knowledge management and organizational learning</p>	<p>Access to information and knowledge,</p> <p>cooperation and virtual organization,</p> <p>integration and work flow,</p> <p>information system (IS),</p> <p>business process integration,</p> <p>mobile technology</p> <p>Efficient use of technologies,</p> <p>Knowledge driven enterprise,</p> <p>fast accessibility to integrated data;</p> <p>Knowledge based systems,</p> <p>open</p>	<p>Charbonnier-Voirin, 2011; Dubey and Gunasekaran 2014; Gunasekaran and Yusuf, 2002; Jin-Hai et al., 2003; Vázquez-Bustelo et al., 2007; Yusuf, et al.,1999.</p>

	<p>information/communication policy, knowledge management systems, Confidential information security, Organizational structure that stimulates innovation, and learning organization, Team-to-team learning, Organization-wide incorporation of learning, constant learning, Core- competence management, Acquisition of Knowledge through internal and external sources.</p>	
3. Cooperative Practices	<p>Internal cooperation - collaboration and incorporation of operations between departments inside the organization. External cooperation –</p>	<p>Charbonnier-Voirin, 2011; Dubey and Gunasekaran 2014; Kassim and Zain, 2004; Lin, et al., 2006.</p>

	<p>cooperation and integration between the organization and external stakeholders, Cooperative relations (strategy), process incorporation (foundation), information integration (infrastructure).</p>	
<p>4. Practices of value creation for customers</p>	<p>Understanding of customers' needs, Forestalling customer associated change, Personalized products and services, Enriching customers customer/marketing sensitivity (mechanism) excellent and vastly tailored products, provide added value content with clear information.</p>	<p>Charbonnier-Voirin, 2011; Dubey and Gunasekaran, 2014; Gunasekaran and Yusuf, 2002; Kassim and Zain, 2004; Yusuf, et al., 1999.</p>

5. Practices to master change	Proactivity Reactivity Communication of the strategic vision	Charbonnier-Voirin, 2011; Kassim and Zain, 2004.
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Agility drivers are basically the changes organizations confront in their business environment and usually these changes are rapid and unpredictable in dynamic and VUCA environment (Bottani, 2010; Charbonnier-Voirin, 2011; Eshlaghy et al. 2010; Lin et al., 2006; Sharifi and Zhang, 1999; Sharifi et al., 2001; Vázquez-Bustelo et al., 2007; Tseng and Lin, 2011; Zhang, 2011). Agility capabilities, for example, proactiveness, speed, responsiveness, flexibility, adaptability and competence, are the vital abilities of an organization to sense and respond to rapid changes (Breu et al., 2001; Charbonnier-Voirin, 2011; Crocitto and Youssef, 2003; Lin et al., 2006; Sharifi and Zhang, 1999; Sharifi et al., 2001; Vázquez-Bustelo et al., 2007; Yusuf et al., 1999; Zhang, 2011). Agility providers are mainly the means to develop and attain these capabilities, such as people, technology, organization structure/processes, and innovation (Bottani, 2010; Charbonnier-Vorin, 2011; Lin et al., 2006; Sharifi and Zhang, 1999, 2007; Vázquez-Bustelo et al., 2007; Zhang, 2011).

Nevertheless, it is perceptible in the literature that there is immense consensus about the people's crucial role as essential providers/enabler of organizational agility (Alavi et al., 2014; Breu et al. 2001; Charbonnier-Vorin, 2011; Crocitto and Youssef, 2003; Dyer and Shafer, 2003; Griffin and Hesketh, 2003; Qin and Nembhard, 2015; Sharifi and Zhang, 2007; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014; Yusuf et al., 1999; Zhang, 2011). Workforce plays a vital role in stimulating the agility capability of the organization (Breu et al. 2001; Qin and

Nembhard, 2015; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014), whereas the indispensable characteristics of the workforce that are conducive to organizational agility are proactivity, adaptivity and resiliency (Dyer and Shafer, 2003; Griffin and Hesketh, 2003; Sherehiy et al, 2007). In short, these three characteristics are crucial elements of workforce agility, which permit the workforce to enable organizational agility (Alavi et al., 2014; Jackson and Johansson, 2003; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014).

It is worth mentioning that an organization cannot be considered agile unless its workforce is agile (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). Hence, if an organization desires to become and remain agile, its practices should constantly encompass programs that continuously develop the agility capabilities of the workforce in order to relentlessly affect and engender the organizational agility (Alavi, 2014; Qin and Nembhard, 2015). Workforce agility plays a crucial role in proactively sensing the drivers of change, promptly seizes the opportunities or ducking the threats by making the right decision in a timely manner and flexibly reconfigures and redeploys themselves in response to change (Charbonnier-Vorin, 2011; Park et al., 2017; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014; Wright and Snell, 1998), while being resilient to the consequences arising from responding to the change, including stress, uncertainty and the constant changing job demands (Sherehiy et al, 2007; Sherehiy and Karwowski, 2014; Qin and Nembhard, 2015). Therefore, workforce agility emerges as foremost constituent of organizational agility that enable the organization to thrive and survive in a dynamic or VUCA business environment (Alavi et al., 2014; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014).

### ***Organizational Agility Definitions, Theoretical background and Constructs***

The organizational agility concept is a comprehensive concept that includes ‘adaptability’ and ‘flexibility’ (Fayezi et al., 2015; Sherehiy et al., 2007; Van Oosterhout et al.,

2006). Until recently, there was confusion between the three terms and sometimes authors used them interchangeably (Chen et al., 2017), while in fact the three terms ‘adaptability’, ‘flexibility’ and ‘agility’ are the evolution with time of how organizations face the change, whereas the enormous rapidity of the change revealed the need for agility (Felipe et al., 2019; Lu and Ramamurthy, 2011; Sherehiy et al., 2007). Firstly ‘adaptability’ is how the organizational structure and processes fit with the change. ‘Flexibility’ is adjusting and mobilizing the organizational resources in order to face the change. However, ‘agility’ encompasses both terms and goes beyond by first proactively anticipating the change before it occurs and quickly respond to the unpredictable change (Bottani, 2010; Christopher and Towill, 2001; Dove, 2001; Fayezi et al., 2015; Felipe et al., 2019; Lu and Ramamurthy, 2011; Van Oosterhout et al., 2006; Yusuf et al., 1999; Zhang, 2011). Secondly, agility forms strong ties with key plays in the organization’s ecosystem (internal and external collaboration) to ensure access to knowledge, information and resources. Thirdly, agility continuously provides new innovative solutions while constantly improving and renewing the existing ones to attain competitive advantage over rivals (Charbonnier-Vorin, 2011; Teece et al., 2016).

### ***Organizational agility definitions***

There are several endeavors to define organizational agility since it was originally introduced in the early 90s. For instance, Yusuf et al. (1999, p.37) defined organizational agility as “successful exploitation of competitive bases (speed, flexibility, innovation, proactiveness, quality and profitability) through the integration of reconfigurable resources and best practices in a knowledge-rich environment to provide customer-driven products and services in a fast-changing market environment”.

Breu, et al. (2001, p.21) defined agility as “Organization-wide capability to respond rapidly to market changes and to cope flexibly with unexpected changes”. Sambamurthy et al.

(2003, p.245) defined agility as “The ability to detect and seize market opportunities with speed and surprise”. Overby et al. (2006, p.121) defined agility as “The ability to sense environmental change and to respond readily”. Chakravarty et al. (2013, p.980) indicated that agility is “the ability to sense opportunities for entrepreneurship or threats that require their adaptive actions, then marshal the necessary resources and endowments to launch appropriate competitive actions”. Charbonnier-Voirin (2011, p.123) defined organizational agility as “a response capability, which is intentionally sought out and developed by the organization in order to enable it to act efficiently in a changing environment characterized in particular by complexity, turbulence, and uncertainty”. Moreover, Qin and Nembhard (2015, p. 56) claimed that “Agility involves re-configuration to proactively capture emerging opportunities and to address unanticipated issues”. Finally, Felipe et al. (2016) asserted that OA is a key dynamic capability that enables the organization to sense and respond efficiently to the environmental changes through learning and innovation, Felipe et al. (2019) also stated that OA enables organizations compete in extremely VUCA or dynamic environments.

It is observable from the definitions found in the literature that initially agility was perceived as the organizational ability to rapidly respond and adapt to unpredicted change, which required the organizations to possess flexibility, responsiveness, competencies and adaptability capabilities (Breu, et al., 2001; Gunasekaran, 1999; Sharifi, et al., 2001). Nevertheless, due to the VUCA nature of the business environment, researchers emphasized the urgency for proactivity and portrayed agility as the ability to sense environmental change before it occurs, capture and seize the opportunities or discerning and avoiding threats by rapidly making the right decision, accordingly reconfigure organizational resources to respond effectively to change (Chakravarty et al., 2013, Charbonnier-Voirin, 2011; Overby et al., 2006; Park et al., 2017; Roberts and Grover, 2012; Sherehiy and Karwowski, 2014).

After thorough analysis of the main models emerged in the literature from different disciplines, despite of the diverse definitions of organizational agility and the various interpretations of the concept and its constructs, an agile organization has the capability of sensing environmental changes by anticipating the change before it occurs, seize the change as an opportunity and respond effectively to the change through reconfiguring flexibly and deliberately adapt its resources, processes and strategy to change and reinforcing continuous innovation and learning (Breu, et al., 2001; Chakravarty et al., 2013; Charbonnier-Voirin, 2011; Dyer and Shafer, 2003; Felipe et al., 2019; Liang et al., 2017; Nazir and Pinsonneault, 2012; Overby et al., 2006; Park et al., 2017; Sambamurthy et al., 2003; Teece et al., 2007; Yusuf, et al., 1999). The absence of the sensing or the responding ability would hinder the overall agility of the organization (Felipe et al., 2019; Park et al., 2017; Tallon et al. 2018). Therefore, the OA fundamental characteristics based on unanimous agreement in the literature are: proactivity, responsiveness, adaptability, flexibility, competencies, cooperation, innovation, organizational learning, and knowledge management/information system (Bottani, 2010; Christopher, 2005; Dove, 1999; Gunasekaran, 1999; Lu and Ramamurthy, 2011; Overby et al., 2006; Sharifi and Zhang, 1999, 2001; Yusuf et al., 1999; Zhang 2011; Sambamurthy et al. 2003). For the purpose of this research, OA is conceptualized as organizational dynamic capabilities necessary for organization to achieve sustainable competitive edge (Felipe et al., 2016; Felipe et al., 2019; Sambamurthy et al., 2003; Park et al., 2017) and to withstand in extremely dynamic business environments (Nijssen and Paauwe, 2012).

### ***Organizational Agility and Dynamic Capabilities***

Consistent with the literature and building on Teece et al., (1997, 2016, 2017) and others' work (Eisenhardt and Martin, 2000; Helfat et al., 2007; Teece, 2007; Volberda, 1998; Wilden et al., 2013; Zahra et al., 2006), organizational agility is a dynamic capability that



permits the organization to rapidly and proactively sense and anticipate the change, seize market opportunities and respond effectively through renewing, aligning, and reconfiguring the organization's resources to sustain competitive advantage and thrive in turbulent, VUCA or dynamic business environment (Doz and Kosonen, 2010; D'Aveni et al., 2010; Felipe et al., 2016; Overby et al., 2006; Park, 2017; Sambamurthy et al., 2003). This environment is characterized by uncertainty due to the rapidity of change and its unpredictability, in other words highly dynamic environment (Felipe et al., 2016; Nijssen and Paauwe, 2012; Park et al., 2017; Teece, 2017).

Dynamic capabilities (DC) as a concept originated from the resource-based view (RBV) of the firm (Barney, 1991; Eisenhardt and Martin, 2000; Teece et al., 1997). The RBV assesses the association between the internal characteristics of an organization and its performance (Barney, 1991). It is a more static view of the firm's resources, where organizations are considered as bundle of resources, which are valued, scarce, imitable, and irreplaceable by which sustainable competitive advantage can be achieved (Barney, 1991). This view, however, is regarded as limiting because it does not stipulate how firms can successfully sustain competitive advantage on the long term (Eisenhardt and Martin, 2000; Teece et al., 1997; Teece, 2007). Nevertheless, organizations need to constantly adapt and renovate their resources and capabilities to effectively respond to their business environment change, consequently maintain a competitive advantage on the long time (Teece, 2007; Teece et al., 2016).

On the other hand, dynamic capabilities are deliberated as higher order capabilities that enable firms to evaluate what changes are required in their resources and capabilities, and urge constant evolvement and renovation of resources in order to remain competitive, especially in new or rapidly changing business environment (Danneels, 2008; Wilden et al., 2013). The

dynamic capabilities theory is concerned about the firms' capacity to relentlessly adjust, renovate, and reconfigure their abilities and capabilities as a main basis of performance (Teece et al., 1997; Teece, 2007; Teece et al., 2016). Dynamic capabilities are "the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die" (Eisenhardt and Martin, 2000, p. 1105). Teece (2007, p.1319) defined dynamic capabilities as "the firm's ability to (1) sense and shape opportunities and threats, (2) seize market opportunities, and (3) maintain competitiveness through enhancing, aligning, and reconfiguring the firm's intangible and tangible resources". Extant research emphasized that organizational agility is a recognized type of dynamic capabilities, which enables the organization to sense and respond efficiently to environmental changes, by anticipating and seizing opportunities in the market while rapidly reconfigure its resources, processes and strategies (Nijssen and Paauwe, 2012; Park et al., 2017; Teece et al., 2016). The dynamic capability of organizational agility is demonstrated in its ability to integrate, build, renew, adjust and reconfigure its internal and external competencies in order to face rapid changes, realize sustainable competitive advantages and thrive in highly dynamic business environment (Felipe et al., 2019; Teece et al., 2016).

In line with that and to comprehend the main components of organizational agility, we draw from dynamic capability theory the three main constructs of organizational agility, which enable the organization to survive and thrive in nowadays complex, uncertain and dynamic business environment. As noted earlier, organizations longing to develop their sensing, seizing and reconfiguring capabilities so as to efficiently survive in dynamic and uncertain business environment (Teece et al., 2016). Consequently, organizational agility encompasses the sensing and responding elements of dynamic capabilities taking into consideration the significance of continues alignment and renewal of the organization's resources to constantly boost its

capabilities, due to the dynamism and relentless changing nature of their environment (Zahra et al., 2006; Felipe et al., 2019; Nazir and Pinsonneault, 2012; Roberts and Grover, 2012). Organizational learning (Park et al., 2017; Teece et al., 2016), organizational ambidexterity (Nijssen and Paauwe, 2012; Sambamurthy et al., 2003; Tallon and Pinsonneault, 2011), absorptive capacity and knowledge management (Felipe et al., 2019; Kale et al., 2018; Volberda et al., 2010) constitute the engine that constantly generate and renovate the sensing, seizing and reconfiguring capabilities of an agile organization (Charbonnier-Voirin, 2011; Pavlou and El Sawy, 2011; Sherehiy and Karwowski, 2014; Teece et al., 2016), as the agility of the organization will not be realized and organizations will not be able to provide novel innovative solutions that cope with the dynamism of the environment and the fast-paced change, by only processing the knowledge gained internally (Nijssen and Paauwe, 2012; Teece et al., 2007, 2016), but also agile organizations need to exploit the knowledge gained and transform it into new products and service, while simultaneously maintain constant exploration of new knowledge to avoid utilizing obsolete or out dated knowledge (Nijssen and Paauwe, 2012; Raisch et al., 2014; Sambamurthy et al., 2003; Teece et al., 2016). Therefore, agile organizations follow the absorptive capacity four principle complementary routines and processes: obtaining, integrating, transforming and exploiting knowledge in order to create dynamic organizational capabilities (Chang et al., 2013; Kale et al., 2018; Nijssen and Paauwe, 2012; Pavlou and El Sawy, 2011, Teece, 2007; Zahra and George, 2002), whereas the acquisition, adaptation and application of knowledge and information are deliberated (Volberda et al., 2010), while maintaining the organizational ambidexterity by constantly exploring the external environments to engender creativity and innovation (Jansen et al., 2012; O'Reilly III and Tushman, 2013).

### ***Organizational Agility Constructs***

**Sensing capability.** Sensing indicates the organizational ability to detect opportunities or threats in the market before they hit the organization, which could lead to chaos or negative consequences due to the unpreparedness to face change (Teece et al., 2007, 2016). Hence, sensing involves market orientation and exploration to detect change signals ahead of rivals, and prepares to seize these opportunities or dodge threats before they negatively impact the organization (Charbonnier-Vorin, 2011; Felipe et al., 2016, 2019; Park et al., 2017; Teece et al., 2016).

As previously stated, dynamic capabilities emphasize the continuity in renewing organizational resources and knowledge, thus sensing process incorporates constant learning and capturing knowledge and information from diverse sources to detect any change indicators in the business environment (Teece, 2007; Teece et al., 2016), then facilitate internal transfer and sharing of the data for analysis and decision making (Teece, 2007). In sum, constant exploration for new knowledge and resources build the capacity of anticipating change and reacting to it (Lee et al., 2015; Overby et al., 2006; Trinh et al., 2012), while simultaneously processing the data internally for exploitation (Lee et al., 2015). Thus, Park et al. (2017) stated that the sensing phase instigates the seizing and reconfiguring phases, as it stimulates proactive behavior concerning predicting change, and reactive behavior involves reconfiguring and reallocating resources to adapt to changes occurring in the business environment.

Nevertheless, it is impossible for an organization to possess the sensing ability without forming strong relationship, networking and collaboration internally and externally with customers, suppliers and partners whilst closely monitoring the competitors, to rapidly acquire valuable data and information to act efficiently on them (Charbonnier-Voirin, 2011; Roberts

and Grover, 2012; Park et al., 2017; Sherehiy and Karwowski, 2014; Yang and Lin, 2012). Moreover, it necessitates well established knowledge management processes that ensure the processing of the acquired data internally through knowledge sharing and internal collaboration between the workforce (Felipe et al., 2019; Fink and Newmann 2007; Park et al., 2017; Roberts and Grover, 2012), and robust organizational learning processes that enable continuous learning and development of the workforce, accordingly they can make sense of the collected data and rapidly react on the sensed change (Charbonnier-Voirin, 2011; Nijssen and Paauwe, 2012; Worley and Lawler 2010), and equip the workforce with the knowledge and information that could stimulate their creativity to create innovative ideas and solutions (Charbonnier-Voirin et al., 2010; Park et al., 2017). Similarly, IT/IS is considered as a significant enabler that directly heightens the organizational sensing capability (Chakravarty et al., 2013; Lu and Ramamurthy, 2011; Nazir and Pinsonneault, 2012; Roberts and Grover, 2012) because integrating IT/IS into organizational processes accelerates data processing and analysis, information sharing and efficient communication (Chakravarty et al., 2013; Chen et al., 2014; Felipe et al., 2019; Park et al., 2017). Besides, IT/IS facilitates internal and external collaboration (Breu et al. 2001; Qin and Nembhard, 2015; Sherehiy et al., 2007) and networking with stakeholders (Bessant et al., 2002; Yang and Liu, 2012) to learn from partners and share valuable information that nurture the organizational sensors to anticipate the change (Park et al., 2017; Tallon and Pinsonneault, 2011). Thus, human resources play a significant role through their proactive behavior (Dyer and Shafer, 2003; Park et al., 2017; Sherehiy and Karwowski, 2014) in apprehending, discerning and making sense of the data captured and quickly reacting and making the right decisions (Breu et al., 2001; Fink and Neumann, 2007; Neill et al., 2007; Park et al., 2017; Teece, 2007), they also participate in capturing data through their networking and collaboration externally and internally (Alavi et al., 2014; Charbonnier-Voirin, 2011). Park et al. (2017)

emphasized that sensing phase will not lead to the desired outcomes if the data captured were overlooked or not rapidly and efficiently used.

Dyer and Shafer (2003, p.13) stated that sensing is a “people embodied competency” in agile organizations as employees at all levels are expected to share any useful information or signals felt from the market to be evaluated and handled internally, and facilitate decision-making by concerned parties. Consequently, the workforce is responsible for rapidly and efficiently determining how to interpret and seize the opportunities detected in the sensing phase, take pertinent actions and allocate or reconfigure resources to successfully maintain a competitive advantage (Sherehiy and Karwowski, 2014; Teece, 2007). Prior to this step, it is necessary to transmit the data captured from the business environment among the concerned decision makers which will generate multidimensional responses from different perspectives due to different interpretation of the data (Park et al., 2017). Accordingly, that will strengthen the sensing and anticipating ability of the organization and eventually remain agile (Felipe et al., 2019; Neill et al., 2007; Park et al., 2017).

**Seizing capability.** According to Chakravarty et al. (2013, p. 978), seizing capability involves “seizing market opportunities that permit a firm to revise its positioning and strategies and organize new business approaches to gain early advantages in changing conditions”. It requires evaluating the existing and emergent organizational capabilities, and forming pertinent design to successfully grasp the opportunity (Teece et al., 2016). Seizing capability “can entail making large and sometimes irreversible investments in tangible and intangible assets” (Helfat and Peteraf, 2015, p. 840). It denotes the organization’s response to market needs in order to elevate the organizational value through designing pioneering business models and maintain

access to financial and human resources to address the opportunities (Park et al., 2017; Teece et al., 2016).

In fact, organizational learning processes play substantial roles in developing the sensing and seizing capabilities, beside enabling the rapid and flexible exploitation of the reconfiguration capabilities (Pavlou and El Sawy, 2011, Teece, 2007). Once the knowledge is acquired in the sensing phase, the seizing phase is mainly the decision-making capacity of the organization (Li and Liu, 2014), which entails making sense of the new knowledge acquired through two fundamental capabilities. First, learning capabilities, which signifies the ability of the organization to revamp current operational capabilities with the new knowledge acquired, are necessary. In other words, it is the opportunity for the workforce to learn and develop new knowledge (Pavlou and El Sawy, 2011). Second, integrating capabilities, which refers to the ability to embed and combine the individual's new knowledge into their teams/units to create collective new operational capabilities within the organization based on which the workforce can generate innovative and creative solutions (Pavlou and El Sawy, 2011). Consequently, exploiting these solutions, actions and decisions would be through deploying, aligning and reconfiguring tasks, activities and resources to deliver new solutions in response to change. Consequently, seizing capability facilitates decision-making by indicating the best approach to respond to the opportunity and threats by allocating the right resources and investments (O'Reilly III and Tushman, 2008; Schilke et al., 2018; Teece, 2007; Teece et al., 2016; Wilden et al., 2013).

Seizing capability relies on the sensing phase, whereas the organizational capacity to address opportunities in the market is mainly based on the information and knowledge captured externally and developed internally in the sensing phase (Teece et al., 2016). Subsequently,

Schilke et al. (2018) asserted that seizing capability incorporates making strategic choices amongst investment opportunities and business models. It involves activities that transform the knowledge and information into new products/services, strategies and processes and delineate the organization commercial strategy and investment priorities in response to the environmental change (Teece et al., 2016).

Nevertheless, seizing capability requires empowered, competent, multiskilled, well trained and autonomous managers and employees who are involved in decision making, committed and loyal to the organization (Alavi et al., 2014; Charbonnier-Voirin, 2011; Griffin and Hesketh, 2003; Hopp and Van, 2004; Muduli, 2013; Sherehiy and Karwowski, 2014; Sumukadas and Sawhney, 2004). In addition, Teece et al. (2016) asserted that loyalty and commitment promote seizing capability, as it does not only require competent workforce to rapidly seize the opportunities sensed in the preceding phase and effectively act on them, but it also requires proactive workforce ready to take initiatives and have the autonomy to rapidly make the right decision to accelerate the decision-making process (Park et al., 2017; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). This stage necessitates rapidity and efficiency in decision making which is attainable if the workforce is competent and flexible, able to make efficient decision and provide flexible solutions without waiting for managers' approval, and that could be possible in climate of trust and support while providing autonomy and control to rapidly respond to change (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). As Pavlou and El Sawy (2011: p.244) stated, "learning enables reconfiguration of operational capabilities", at this stage, the organization learn about the changes that will occur, make the decisions and take actions that need to be rapidly deployed in the reconfiguration phase, and that requires coordinating and reconfiguring the tasks, activities and resources required for the change response (Teece et al., 2016).



**Reconfiguring.** Finally, after sensing and seizing the opportunities or threats in the business environment, organizations need to redeploy, unceasingly renovate and reconfigure their resources to implement the strategies and business models generated from the seizing step to effectively address the opportunities and rapidly respond to change (Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012; Teece, 2007; Teece et al., 2016). Hence, it is the organizational capability to reconfigure its resources, process, strategies and routines in the way planned and considered fitting by the decision makers (Doz and Kosonen, 2010; Helfat et al., 2007; Teece et al., 2016; Zahra et al., 2006). Thereby, it is the implementation and execution of the strategic decisions and plans, which incorporate expanding and adjusting in response to the changes in the business environment (Teece 2007; Winter 2003; Wilden et al., 2013), turning the operational capabilities into new ones fitting with the environmental change (Pavlou and El Sawy, 2011), constant renewal of resources ensuring that the workforce has the desirable competencies, continuously learning and acquiring new knowledge and skills (Eisenhardt and Martin, 2000; Kok and Ligthart, 2014). For this reason, workforce scalability is a core competency of agile organizations to easily and quickly be aligned with the business changes; however, that might lead to risk of losing knowledge and information and also disconnection in social capital due to constant changes in work organization and moving fast from project/task to another (Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012; Wright et al., 2003). Nevertheless, organizational learning, knowledge management, absorptive capacity and collaboration internally and externally are linked to the workforce scalability capacity (Alavi et al., 2014; Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012).

Reconfiguration depends on reactive flexibility and present optimized resources (Charbonnier-Voirin, 2011). The infrastructure of an agile organization incorporates four

reconfigurable levers that can be deployed and reconfigured to adapt and respond to change, namely: (a) organizational structure, (b) processes, (c) information technology, and (d) human resources (Charbonnier-Voirin, 2011; Sharifi and Zhang, 2007).

Organizational structure is intended to stimulate high degree of flexibility through low formalization, decentralization, employee participation in decision making, and enable collaboration by organizing workforce in teams or networks (Alavi et al., 2014). The organizational core processes are designed to be easily reengineered and realigned in case of changes in the business conditions or the work organization, at the same time enable rapid decision making in response to change (Charbonnier-Voirin, 2011). Information technology can be rapidly realigned with internal changes resulted from the response to the unpredictable change and flexibly reintegrate into the organizational processes and accommodate innovative solutions (Tallon and Pinsonneault, 2011). Lastly, human resources reconfiguration entails employee's flexibility to adapt rapidly to changes in the work organization by fulfilling the changes in job demands, new job design, handle diverse tasks, can rapidly be deployed whenever the need arises, move from one team to another and behave differently in various situations in response to change (Sherehiy and Karwowski, 2014).

This research aims to shed light on the human resources lever. Building on the sensing and seizing capabilities, human resources need to make sense of the data in order to make prudent decisions in response to the change, which involve decisions about renewing and redeploying of existing resources (Pavlou and El Sawy, 2011; Wilden et al., 2013). Consequently, human resources need to be reconfigurable and flexible to facilitate the implementation of these decisions through rapid adaptation to the internal and external changes (Pavlou and El Sawy, 2011; Wilhelm et al., 2015; Teece, 2007), which accordingly necessitate

flexible human resources to adapt rapidly and efficiently to change in dynamic environment (Bhattacharya et al., 2005; Martínez-Sánchez et al., 2011; Úbeda-García, 2018; Way et al., 2015; Way et al., 2017) and at the same time demonstrate resilient behavior towards the decisions made during the seizing phase that require reconfigurability of resources, by showing positive attitude towards the new work organization, job characteristics and demands, generated from adapting to change (Alavi et al., 2014; Sherehiy and Karwowski, 2014). Furthermore, there needs to be tolerance to uncertainty and stressful situations resulting from the rapid response to change (Sherehiy and Karwowski, 2014).

The following section presents the organizational agility antecedents, characteristics and practices of agile organizations to show how organizations develop their agility capabilities to sense and respond to change and at the same time to envision the consequences of being agile on employees associated with organizational agility. Due to the lack of consensus on the definition of organizational agility and diverse facets of agility, this study focuses on studies that covered the holistic aspect of organizational agility and propose elements and practices that engender the organizational agility capabilities to sense and respond to change.

### ***Characteristics and practices of Agile Organizations***

#### ***Antecedents and Characteristics of Organizations Agility.***

As previously stated, organizational agility incorporates competitive attributes such as proactivity, competency, innovation, adaptability, flexibility, speed, profitability, productivity, culture of change, quality, learning and knowledge management (Charbonnier-Vorin, 2011; Gunasekaran and Yusuf, 2002; Lin et al., 2006; Qin and Nembhard, 2015; Sherehiy et al., 2007; Tallon and Pinsonneault, 2011; Vázquez-Bustelo et al., 2007; Zhang and Sharifi, 2007; Zhang,

2011). All these attributes are actually the synonyms of the organizational agility constructs embraced in our research, the sensing, seizing and reconfiguring capabilities (Charbonnier-Vorin, 2011), by which the organization can quickly and efficiently sense and respond to unpredictable changes (Teece et al., 2017). These capabilities can be realized through the integration, assimilation and exploitation of reconfigurable resources, strategies, business processes (Overby et al., 2006; Teece et al., 2017; Yang and Liu, 2012) and organizational practices that foster learning, knowledge sharing and collaboration to fulfill the customers' requirements and provide value added products and services in a rapidly changing business environment (Zhang and Sharifi, 2007; Zhang, 2011). Hence, the realization of agility is linked to enabling elements and a set of practices that are conducive to the agility capabilities of the organization (Alavi et al., 2014; Bottani, 2010; Charbonnier-Voirin, 2011; Tseng and lin, 2011). Whereas, agile organizations combine technology and human resources through information and communication foundation, in order to postulate their competitive attributes to enable efficient response to environmental change (Eshlaghy et al. 2010).

In general, Smet et al. (2018) highlighted that agile organizations share common characteristics despite the difference in their agility level. They mention that agile organizations' structure is more organic that enables horizontal communication and interaction between the employees, promotes decentralization which gives the employees more autonomy, and the right to participate in decision making. They are customer centric and committed to create value for their customers and all their stakeholders. They operate through a network of dynamic, agile and scalable workforce, in a culture that embodies leadership, engagement and empowerment for the employees and ignites spirit of internal and external collaboration and value creation. Besides, agile organizations commonly adopt advanced technology that enables

efficient collaboration and communication, and at the same time accelerates knowledge and real-time information sharing for efficient and rapid decision making.

Nevertheless, there is general consensus from scholars and practitioners that organizational agility is a holistic view across the organization's strategy, structure, human resources, processes and technology. Besides, agility requires stability and dynamism at the same time to foster its agility capabilities (Aghina et al., 2015; Charbonnier-Voirin, 2011). Agile organizations need to maintain on one side stable inner core: shared purpose, clear vision, values, performance metrics, robust intent and strong future focus as a fixed backbone to ensure continuity and sense of direction (Aghina et al., 2015; Dyer and Shafer, 2003; Nijssen and Paauwe, 2012; Worley and Lawler, 2010). They also need to have dynamic and flexible structure, processes, human resources and technology, which can adapt rapidly to any unpredictable challenges or opportunities (Charbonnier-Voirin, 2011; Worley and Lawler 2010). Inflexible hierarchies, business units operating in silos and retarding bureaucracy, are factual impediment to agility in dynamic and turbulent business environments (Bessant et al., 2002; Bottani, 2010; Felipe et al., 2017; Nijssen and Paauwe, 2012; Teece et al., 2017).

Diverse models in the literature demonstrated the drivers of agility, its main enablers and the capabilities required to develop organizational agility (Eshlaghy et al., 2009; Sharifi and Zhang, 1999; Sharifi, et al., 2001; Tseng and Lin, 2011). However, few models explicated the agility dimensions and the organizational practices that contribute in engendering the agility capabilities (Bottani, 2010; Charbonnier-Voirin, 2011; Eshlaghy et al. 2010; Sherehiy et al. 2007), especially from holistic enterprise perspective not only from one narrow facet of agility, like for instance: IT agility (Kassim and Zain, 2004; Lu and Ramamurthy, 2011), workforce agility (Breu et al., 2001; Sherehiy and Karwowski, 2014 ) supply chain agility (Christopher,

2000; Christopher and Towill, 2001; Lin et al., 2006; Ngai et al., 2011), and manufacturing agility (Gunasekaran, 1999; Sharifi and Zhang, 1999; Sharifi, et al., 2001; Vazquez-Bustelo et al., 2007).

In fact, the agility drivers urge the organizations to review their current strategies and adopt agility strategy in order to develop organizational agility. Thus, the agility enablers/providers/pillars (the three terms are often used interchangeably in the literature) (Sharifi, 2007; Tseng and lin, 2011; Vázquez-Bustelo et al., 2007) act as the means to achieve the agility capabilities through the practices associated to these enablers, which ultimately foster the organization's ability to sense and respond to change (Bottani, 2010; Charbonnier-Voirin, 2011; Eshlaghy et al. 2009; Sherehiy et al., 2007; Tseng and Lin, 2011). The core enablers of agility such as organization structure, processes, people, information technology are integrated elements in the organizational system which can rapidly and flexibly be reconfigured in response to change and at the same time act as the organizational sensors that detect the change ahead of rivals (Charbonnier-Voirin, 2011; Felipe et al., 2016; Park et al., 2017; Ravichandran, 2017; Sherehiy et al., 2007; Vázquez-Bustelo et al., 2007).

It is essential at this stage to understand how the enablers contribute in developing the organizational agility capabilities, and the practices that are conducive to it. According to Sherehiy et al. (2007), agile organizations adopt global strategies that act as a roadmap or principles based on which the agility practices and enablers enact to achieve organizational agility (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). These strategies focus on (a) customers - the aim is to enrich the customer experience, establishing strategic relationship with the customer, creating value by providing customer driven innovate products and services, and eagerness to attain customer satisfaction (Charbonnier-Voirin, 2011; Dubey and

Gunasekaran, 2014; Eshlaghy et al., 2009; Felipe et al., 2019; Roberts and Grover, 2012; Park et al., 2017; Sherehiy and Karwowski, 2014; Tseng and Lin, 2011; Yang and Lin, 2012); (b) cooperation - by reinforcing internal and external cooperation with all parties inside their ecosystem to boost the organization's competitiveness, facilitate access to data, knowledge and resources sharing (Charbonnier-Voirin, 2011; Eshlaghy et al., 2009; Sambamurthy et al., 2003; Sherehiy and Karwowski, 2014; Tallon and Pinsonneault, 2011); (c) organizational learning and knowledge management are considered as key success factors in developing organizational agility, as they entail leveraging the influence of people, knowledge, technology and creativity through constant training and development, permitting the exploration and exploitation of knowledge and continuous extraction of tacit knowledge through close relations with customers, suppliers, and partners (Charbonnier-Voirin, 2011; Felipe et al., 2019; Lu and Ramamurthy, 2011; Nijssen and Paauwe, 2012; Worley and Lawler 2010).

Moreover, culture of change is one of the essential strategies that emphasizes the significance of consistently observing the business environment to sense any change that could occur or already took place but at early stages, whilst constantly revise and realign the internal strategies, policies and processes, foster constant improvement, and encourage exploration and improvisation, develop employees' competency to deploy changes on the existing products or produce new innovative products (Charbonnier-Voirin, 2011; Eshlaghy et al., 2009). Furthermore, valuing human resources as one of the focused areas of the agile organization's strategies, which entails developing agile workforce considering the employees' role and competency as a significant factor in delineating the agile organization (Bottani, 2010; Charbonnier-Voirin, 2011; Nijssen and Paauwe, 2012). Leveraging information technology/system infrastructure, which enables rapid access and flow of information and facilitate communication (Felipe et al., 2019; Fink and Newmann 2007; Park et al., 2017;

Roberts and Grover, 2012). Finally, shared leadership, which extends the leadership from being an individual attribute to become an overall organizational capacity, invigorated by constant competencies development, sharing knowledge and power throughout the organization, providing information and resources access (Eshlaghy et al., 2009). Consequently, employees are capable to make rapid and efficient decision without requiring or awaiting management approval (Eshlaghy et al., 2009; Worley and Lawler, 2010). In addition to these fundamental strategies, the realization of organizational agility is associated with reconfigurable enablers which participate in generating the organizational agility capabilities and enable the adaptability to change (Charbonnier-Voirin, 2011; Sherehiy et al., 2007).

### ***Organizational agility enablers***

**Organizational Structure.** Agile organizations adopt organic structure features, flatter or horizontal or networked or virtual structure. Thus, agile organization's structure encourages decentralization, less hierarchal levels, low formality, and network of empowered teams (Alavi et al., 2014; Ebrahim et al., 2018; Eshlaghy et al., 2009; Nijssen and Paauwe, 2012), Therefore, such organizational structure permits employees' participation in decision making, more employees autonomy and control over their work. Moreover, it enables teamworking and cross functional cooperation, flexible informal rules and procedures, fluid role definition to incite diversity in job tasks and simultaneously acquiring diverse knowledge and competencies (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). It also encourages open and informal communication, networking internally between teams and also forming ties between internal and external networks to facilitate smooth flow of information and enable knowledge sharing (Alavi et al., 2014; Dove, 2001; Nijssen and Paauwe, 2012; Worley and Lawler, 2010) and boosts organizational learning by which organizations develop the workforce agility (Alavi et al., 2014). On the other hand, Felipe et al. (2016) claimed that hierarchal culture has a



negative effect on organizational agility and weakens the relation between absorbed capacity and organizational agility and that demonstrates the significance of less complex, low formality and decentralize organizational structure to enable organizational agility.

**Organizational Processes.** The organizational core business processes that are relevant to scanning the business environment, decision making processes and operational processes are designed to be easily reconfigured and aligned in order to quickly adapt to the emerging new business conditions (Teece et al., 2016). As Tallon and Pinsonneault (2011, p. 241) stated “strategic processes provide an insight into how firms improvise combinations of knowledge, assets, and resources in crafting competitive actions”. Agility necessitates interconnected processes, which allow cross functional cooperation between different units and teams, quick access and share of information, rapid realization of innovative products and services that meet the new market demands (Teece et al., 2016). Hence, the operational processes incorporate processes that are relevant to innovation, product and service realization, resource allocation, performance and rewarding system, continuous learning and competency development, and selecting the right workforce that participate in developing organizational agility (Charbonnier-Voirin, 2011). In other words, the processes that are vital for assuring rapid decisions and learning cycles that require transparency, knowledge sharing, and continuous learning among teams and within team members to equip the employees with the necessary data and competency based on which they can make fast and efficient decisions and at the same time effortlessly react to change (Aghina et al., 2018). In turn, organizations can rapidly and efficiently achieve organizational agility (Lu and Ramamurthy, 2011; Sambamurthy et al., 2003). As consequence of processes reconfiguration, it is expected that changes in the work organization, job demands, job design and tasks will occur, which in turn necessitates constant

provision of sufficient resources to fulfill the changing demands (Sherehiy and Karwowski, 2014).

**Information Technology And Systems (IT/IS).** Agile organizations integrate IT/IS into core business processes to accelerate the efficiency and rapidity in sensing and responding to change (Felipe et al., 2019). Several authors affirmed the significant role of information technology/system as an essential enabler that contributes in heightening the agility capabilities (Chakravarty et al., 2013; Felipe et al., 2019; Lu and Ramamurthy 2011; Mikalef and Pateli, 2017; Roberts and Grover 2012; Park et al., 2017; Ravichandran, 2017; Sambamurthy et al., 2003; Tallon and Pinsonneault, 2011).

The relation between IT and organizational agility is immensely covered in the literature from diverse perspectives (Tallon et al., 2018; Felipe et al., 2019). Albeit IT is not the focus of our research, the human side of IT as enabler of organizational agility is examined. The literature revealed the vital function of IT in facilitating knowledge and data acquisition, real-time data processing among all the concerned channels (Overby et al., 2006; Roberts and Grover, 2012), generates digital options formed in the shape of digitized work processes and knowledge systems (Sambamurthy et al., 2003; Ravichandran, 2017), act as a mean of communication that strengthen the cooperation between all the networks engaged in the organization's ecosystem internally and externally (Breu et al., 2002; Park et al., 2017; Roberts and Grover, 2012). Nevertheless, several authors emphasized in their research the significant role of IT personnel capabilities in discovering and making use of the advanced information technology, which participate in fostering the organizational agility (Fink and Neumann, 2007; Park et al., 2017; Tallon et al., 2018). For instance, Fink and Neumann (2007) highlighted that IT personnel capabilities are depicted in not only technical skills but also behavioral and

business knowledge and skills, where the IT personnel should have combination of these capabilities due to the boundary-spanning role they play in capturing and obtaining valuable information about the rapidly changing technologies, to continuously improve the innovation process and align the organizational IT infrastructure with the business needs and strategy. The core IT personnel characteristics and abilities tested in their study are proactivity, self-directed, planning and executing work efficiently, cross functional teams and cross-trained to serve other areas in the IT services and tackle diverse business problems. Furthermore, they asserted the significance of knowledge sharing, continuous learning, following the trends in information technology, awareness of the business needs and interpreting them into relevant technical solutions.

Currently with all the advancement in the IT/IS field, for instance business intelligence, big data, all these advancements when impeded in the IT systems to analyze huge volume of data gathered from the market, provide an insight on the patterns of the customer behavior and market trends (Felipe et al., 2019; Lee et al., 2015; Park et al., 2017). Thus, IT facilitates anticipation of market propensity, allows concerned parties to make sense of the data collected and analyzed, and subsequently make rapid and efficient decisions to seize emergent opportunities or alleviate threats (Park et al., 2017). Moreover, IT/IS raises employee's agility when utilized as a collaborative mean of work (Breu et al., 2002) and grease the wheels of absorptive capacity which fosters the organizational agility (Kale et al., 2018; Felipe et al., 2016). Nevertheless, there are arguments about the complexity of the IT systems and how the IT systems rigidity can hinder adaptation to change (Lu and Ramamurthy, 2011; Overby et al., 2006).

Hence, the IT literature emphasized the significant role of IT personnel competencies in fostering the IT infrastructure, which accordingly heighten the IT-dependent strategic agility (Fink and Neumann, 2007; Park et al., 2017). Fink and Neumann (2007) highlighted that IT personnel capabilities are depicted in not only technical skills but also behavioral and business knowledge and skills, whereas the IT personnel should have combination of these capabilities due to the boundary-spanning role they play in capturing and obtaining valuable information about the rapidly changing technologies, to continuously improve the innovation process and align the organizational IT infrastructure with the business needs and strategy. The core IT personnel characteristics and abilities tested in their study are proactivity, self-directed, planning and executing work efficiently, cross functional teams and cross-trained to serve other areas in the IT services and tackle diverse business problems. Furthermore, they asserted the significance of knowledge sharing, continuous learning, following the trends in information technology, awareness of the business needs and interpreting them into relevant technical solutions.

**People.** There is consensus in the literature that people are significant enabler of organizational agility (Alavi et al., 2014; Bottani, 2010; Breu et al., 2002; Charbonnier-Vorin, 2011; Dyer and Shafer, 2003; Fink and Newman, 2007; Nijssen and Paauwe, 2012; Park et al., 2017; Qin and Nembhard, 2015; Sharifi and Zhang, 1999, 2007; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014) and that organizational agility cannot be achieved without agile workforce (Breu et al. 2002; Charbonnier-Vorin, 2011; Dyer and Ericksen, 2006; Gunasekaran and Yusuf, 2002; Qin and Nembhard, 2015; Sharp et al., 1999; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014). Workforce agility is expected to reinforce organizations' ability to survive and thrive in dynamic and turbulent business environment (Bottani, 2010; Crocitto and Youssef, 2003; Katayama and Bennett, 1999; Qin and Nembhard, 2015; Sherehiy et al., 2007;

Sherehiy and Karwowski, 2014), as the agile workforce possesses the knowledge, information and competencies that enable the organization to anticipate and respond to change, whilst aptly and rapidly handle the frequently changing job demands resulted from the change (Alavi et al., 2014; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014; Tsourveloudis and Valavanis, 2002).

Dyer and Ericksen (2006) stated that each participant in the system contributes in forming self-organizing systems, participates in continuously improving the process by constantly sensing emerging events, detects potential threats or opportunities, reacts effectively and timely to deal with them, improvises and initiates creative solutions, rapidly redeploy him/herself from one situation to another, collaborates with colleagues and collectively learn by sharing knowledge with others. Similarly, extant research emphasized the workforce contribution in sensing and responding to change (Alavi et al., 2014; Charbonnier-Vorin, 2011; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014)

Building on the three constructs of organizational agility, workforce agility plays a vigorous role in developing the organizational agility capabilities. First, workforce participate in sensing proactively the drivers of change in the business environment through robust collaboration and networks formed internally (among team members and between diverse teams and unites) and externally (customers, suppliers, partners and all the key plays in the organizational ecosystem) (Charbonnier-Voirin, 2011; Felipe et al., 2019; Sherehiy and Karwowski, 2014; Teece et al., 2016). It also requires close observation of the key competitors in the market and understanding their moves (Charbonnier-Voirin, 2011; Roberts and Grover, 2012; Park et al., 2017; Sherehiy and Karwowski, 2014; Yang and Lin, 2012). Furthermore, workforce proactiveness is heightened through continuous learning, knowledge exploration,

exploitation and sharing (Lee et al., 2015; Overby et al., 2006; Trinh et al., 2012), and stimulated through employee resilience (Caniëls and Baaten, 2019).

Second, workforce contributes in seizing opportunities rapidly or alleviate threats by making prudent decisions timely and effectively (Teece et al., 2016). The decisions involve decisions about renewing and redeploying of existing resources (Pavlou and El Sawy, 2011; Wilden et al., 2013). Nevertheless, the decision-making ability requires a highly competent workforce (Charbonnier-Vorin, 2011; Qin and Nembhard, 2015), decentralization (Alavi et al., 2014), supportive leadership (Charbonnier-Vorin, 2011; Eshlaghy et al., 2009; Smet et al., 2018; Worley and Lawler, 2010), autonomy and control (Alavi et al., 2014; Charbonnier-Vorin, 2011; Darvishmotevali et al., 2020; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014; Van Oyen et al., 2001).

Finally, workforce flexibility and adaptability facilitate its reconfigurability in response to the changes resulted from the decisions made in the seizing phase (that necessitates highly flexible and adaptable workforce that can cope with the changes in their jobs and handle the new job demands resulted from the change, especially in dynamic and turbulent business environment (Bhattacharya et al., 2005; Charbonnier-Vorin, 2011; Martínez-Sánchez et al., 2011; Park et al., 2017; Pavlou and El Sawy, 2011; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014; Teece, 2007;; Úbeda-García, 2018; Way et al., 2015; Way et al., 2017; Wilden et al., 2013; Wilhelm et al., 2015) Therefore, workforce in agile organizations needs to be agile to actually play the role of organizational agility enabler (Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014).

## ***Workforce Agility***

Workforce Agility Due to the rapid changes and instability in the business ecosystem, employees are expected to go beyond their official duties and demonstrate essential behaviors to participate in the organizational success (Caniëls and Baaten, 2019; Cooper et al. 2014; Grant and Ashford 2008; Griffin et al. 2007; Luthans et al., 2006; Parker and Collins 2010; Sherehiy and Karwowski, 2014). Proactivity, adaptivity and resilience are the fundamental characteristics and desired behaviors of the agile workforce, which qualify the workforce to act as a principle organizational agility enabler (Dyer and Shafer, 2003; Griffin and Hesketh, 2003; Qin and Nembhard, 2015; Sherehiy et al., 2007). Nevertheless, these characteristics or behaviors need apt organizational context and practices in order to be demonstrated and practiced in the workplace (Caniëls and Baaten, 2019; Cooper et al. 2014; Sherehiy and Karwowski, 2014), which eventually foster the organizational agility capabilities (Charbonnier-Vorin, 2011; Qin and Nembhard, 2015). The following section explains the main characteristics of agile workforce and the principal organizational factors that elicit and stimulate workforce agility.

**Proactivity.** Employee proactive behavior is crucial for organizations confronting rapid changes, uncertainty and tough competition (Bindl and Parker, 2012; Crant 2000; Grant and Ashford 2008; Parker et al., 2006; Parker and Collins 2010). The upsurge of decentralization and self-directed teams in dynamic organizations highlight the significance of employees' proactivity as a vital determinant of the organizational success (Grant and Ashford 2008; Griffin et al., 2007; Parker and Collins 2010; Wu et al., 2015). Proactive behavior, according to Parker and Collins (2010, p. 635), is "self-initiated, anticipatory action that aims to change and improve the situation or oneself". This definition denotes three main elements that reinforce proactive behavior: self-initiation, future focus, change, and improvement orientation (Bindl

and Parker, 2010; Parker and Collins, 2010; Sherehiy and Karwowski, 2014; Wu and Parker, 2011).

Grant and Ashford (2008) elucidate that proactive behavior is more than motivated or reactive behavior. It is distinguished by two important facets; first acting in advance and second intended positive impact. They elaborated that proactivity can be thought of as a process involves predicting, planning and striving to have an influence (Grant and Ashford, 2008). Thus, proactive employees can anticipate the change and the consequences linked to it, take initiatives and decide which actions should be taken to change oneself or the situation, propose solutions/ideas with discernable positive impact on the changing environment to achieve the envisioned future (Dyer and Shafer, 2003; Grant and Ashford 2008; Griffin and Hesketh, 2003; Griffin et al., 2007; Parker and Collins 2010; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014), thus striving to attain these goals while learning from the whole experience (successes and failures) (Grant and Ashford 2008; Parker and Wang, 2015; Sherehiy and Karwowski, 2014). Proactive employees are the owners of this process which entails autonomy and control over the whole process to demonstrate proactive behavior at work and make the right decisions (Crant, 2000; Deanne et al., 2012; Grant and Ashford, 2008; Parker et al., 2006). The main characteristics of proactive workforce are self-directed, change oriented with problem solving and decision-making abilities to efficiently handle complex situations/tasks (Charbonnier-Vorin, 2011; Griffin and Hesketh, 2003; Parker et al. 2006; Sherehiy et al., 2007; Sherehiy, 2008; Sherehiy and Karwowski, 2014) and alter the current situation by taking advantage of the change for the benefit of the organization (Grant and Ashford 2008; Griffin et al., 2007; Parker and Collins 2010).



Employees who are showing proactive behavior at work either possess proactive personality or stimulated to behave proactively at work (McCormick et al., 2019). There are two main factors that are inducive to the employees' proactive behavior (Crant, 2000; Parker et al., 2006; Parker and Collins 2010). First, individual factors include a number of individual differences such as proactive personality, self-efficacy, goal orientation, competencies (knowledge, skills and abilities), and desire for achievement, which influence the employees' proactive behavior (Crant, 2000; Bindl and Parker 2011; McCormick et al., 2019; Parker et al., 2006; Parker and Collins 2010; Wu and Parker, 2017). Second, the contextual factors (e.g., managerial/leadership support, climate of trust, work characteristics, autonomy and control) are predominantly significant antecedent that elicit and promote employees' proactive behavior at work (Bolino et al., 2010; Crant, 2000; McCormick et al., 2019; Ohly and Fritz, 2010; Parker et al., 2006; Parker and Collins 2010; Sonnentag and Spsychala, 2012; Wu and Parker, 2011). Cangiano et al. (2019) asserted that when employees exhibit and enact proactive behavior at work engender a sense of vitality because this behavior is self-initiated to bring about a positive change to oneself and the organization. Hence, this change is a challenging new experience that contribute to the employees' learning and competence (Bindl and Parker, 2012; Cangiano et al., 2019; Parker et al., 2019; Strauss and Parker, 2018). Consequently, employees feel alive and vigor when they act proactively, which is an indication of positive well-being (Cangiano et al., 2019). Nevertheless, Cangiano et al. (2019) affirmed that employees need psychological safety to freely display proactive behavior at work, so as not to fear the blame or punishment for taking the initiative or in case of failure to accomplish the desired outcome (Deanne et al., 2012; Parker and Collins 2010).

Moreover, Deci et al. (2017) stated that employees take initiative and demonstrate proactive behavior when they are intrinsically motivated because it is self-initiated and they

choose to make a difference (Gagne and Deci, 2005; Grant and Ashford, 2008; Hirschi et al., 2013; Parker et al., 2010). Self-initiated change conceived to be an indication of employee engagement (Bakker et al. 2012; Nikolova et al., 2014). Therefore, a safe, supportive and trustful environment is considered as a fertile ground for employees to feel secured to act proactively at work (Crant, 2000; Parker et al., 2006; Parker et al., 2019; Sonnentag and Spychala, 2012; Wu and Parker, 2012). Accordingly, proactivity is not only influenced by the individual factors but also the contextual factors in which the behavior is the result of the individual-work environment interaction (Crant, 2000; Crant and Jiang, 2017; McCormick et al., 2019; Parker et al., 2006; Parker et al., 2010; Parker et al., 2019).

The unceasingly fast changes and uncertainty in the business environment cause time pressure due to the need for fast and effective response, which necessitate employees to behave proactively (Shin and Kim, 2015). Time pressure and situational constraints are job demands perceived as a challenge-related stressor, which trigger the employees' proactivity to rapidly cope with and fulfill the job demands. Nevertheless, they have to be coupled with job control and autonomy as essential job resources that enable the employees to practice their proactivity (Ohly and Fritz, 2010; Sonnentag and Spychala, 2012). Conversely, the lack of autonomy and control will hinder the employees from taking initiative, in addition to difficulty to make timely decisions and respond rapidly to the job challenges (Cangiano et al., 2019; Parker and Collins, 2010). Due to this imbalance between job demands and job resources, stress, exhaustion and burnout could be induced, which would be detrimental to the employee well-being (Bakker and Demerouti, 2007; Bakker et al, 2014; Lundberg and Cooper, 2011; Schaufeli, 2017).

Several studies have asserted the positive association between job autonomy and proactive behavior (Ohly and Fritz, 2010; Parker et al., 2006; Sonnentag and Spychala, 2012).

Moreover, the ‘can do’ motivation is essential to foster employees’ self-efficacy and reduces uncertainty, which in turn stimulate employees’ proactive behavior due to their self-perceived capability to attain the task/goal (Grant and Ashford, 2008; Hirschi et al., 2013; Parker and Collins 2010). This is explicitly essential for those who do not have proactive personality by nature. Can-do motivation fosters the employees’ self-efficacy, in addition to the autonomy provided they can clearly demonstrate proactive behavior (Charbonnier-Vorin, 2011; Parker et al., 2006; McCormick et al., 2019). Thus, supportive leaders in organizations operating specifically in dynamic or uncertain environment are the catalysts that empower the employees, develop their competencies, encourage them to work in team-oriented way, and involve them in decision making to stimulate their proactivity (Cai et al., 2019; Parker and Collins 2010; Wood et al., 2012; Wu et al., 2015). This is essential because anticipating the change and making effective rapid decisions are very crucial for the organizational survival (Charbonnier-Vorin, 2011; Deanne et al., 2012; Eshlaghy et al., 2009; Parker and Collins, 2010; Parker et al., 2019; Smet et al., 2018). Therefore, supportive leaders create challenging vision, establish common purpose and values, foster the employees’ psychological safety (Dollard and Bakker, 2011; Detert and Treviño, 2010), develop their competencies, ensure work design featuring autonomy and control by which employees would have the liberty to lead by their own discretion (Charbonnier-Vorin, 2011; Parker et al., 2019; Sherehiy and Karwowski, 2014; Wu and Parker, 2017).

There are many leadership styles discussed in the proactive behavior literature that engender employees’ proactivity, because the leaders’ traits and behaviors are vital in promoting employees’ proactive behavior (Parker et al., 2019). The main leadership styles covered in the literature are: servant leadership: servant leaders provide guidance and support to their employees, offer the necessary resources to foster employees’ personal development,

enable safe working environment where they can learn from failures without being blamed (Liden et al., 2014; Van Dierendonck, 2011). Empowering leaders share power with their employees, involve them in decision making to control their work independently, encourage self-development and show confidence in their competencies. As such, employees are likely to exhibit proactive behavior and alter their job in the way they deem meaningful (Amundsen and Martinsen, 2014; Thun and Bakker, 2018; Vecchio et al., 2010). Authentic leaders support employees and inspire them to honestly realize their values (Walumbwa et al., 2008; Zhou and Yang, 2013). Finally, transformational leaders have the propensity to initiate change themselves because they are change oriented, which is pertinent to fast paced changing environment (Charbonnier-Vorin, 2011; Charbonnier-Voirin and Roussel, 2012; Crant and Bateman, 2000; McCormick et al., 2019). They enunciate challenging future vision that intellectually stimulate the employees and inspire them to take the initiative and lead by their own discretion to bring innovative and creative change to the organization (Belschak and Hartog, 2010, Griffin et al., 2010; Henker et al., 2015).

**Adaptivity.** Adaptive behavior is the ability of employees to change and adjust their behavior and skills to fit well into the new environment in response to the new demands resulted from the consequences of uncertain, unpredictable and complex situations (Ketkar and Sett, 2009; Schmitt and Chan, 2014; Sherehiy et al., 2007; Way, 2015, 2017; Wright and Snell, 1998). Moreover, employees can competently fulfill their job demands while rapidly align and reconfigure in different situations and be redeployed in diverse teams (Charbonnier-Vorin, 2011; Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012; Way, 2015, 2017). This factor requires interpersonal and cultural adaptability when interacting with different people and situations, relentlessly learning and acquiring new skills, performing diverse and new tasks, and

being comfortable with changing job demands (Griffin and Hesketh, 2003; Griffin, Parker, and Mason, 2010; Sherehiy and Karwowski, 2014).

Employees with high self-efficacy and self-regulation can adapt effectively to change (Breevaart et al., 2015; Lee et al., 2018) and these factors could be improved through self-leadership training. Moreover, adaptive behavior necessitates employees' flexibility to play multiple roles, move smoothly from one role to another and the capability to work concurrently on diverse activities with diverse teams, and collaborate effectively (Sherehiy and Karwowski, 2014; Way, 2015, 2017). Besides, employees who demonstrate adaptive behavior with high self-efficacy and regulation habitually learn effectively and work creatively are able to handle stressful and unforeseen situations and accommodate various social and cultural situations (Charbonnier-Vorin et al., 2010; Pulakos et al., 2000, 2006).

Adaptive behavior is associated with the capacity to work in a dynamic environment and rapidly alter in diverse roles and various situations, while collaborating with different teams with emphasis on accomplishing work tasks and ultimately the organizational goals (Dyer and Shafer, 1999; Dyer and Shafer, 2003). According to Ployhart and Bliese (2006, p.13), "Individual adaptability represents an individual's ability, skill, disposition, willingness, and/or motivation, to change or fit different task, social, and environmental features". It is the individual's effective response to the new demands associated with change generated from business environment dynamism, complexity, uncertainty and fast-paced changes (Schmitt and Chan, 2014), by adjusting their behavior and skills to fit well into the new environment (Ketkar and Sett, 2009; Sherehiy et al., 2007; Way, 2015, 2017; Wright and Snell, 1998).

There is immense interest from organizational leaders about employees' adaptability and they realize its significance, because the consequences of the change require employees who can rapidly adapt with and fit in diverse teams, handle various tasks and situations, while constantly acquire new skills to always have the ability to deal with advanced technology and constant changing job demands (Griffin and Hesketh, 2003; Griffin, Parker, and Mason, 2010; Sherehiy and Karwowski, 2014; Schmitt and Chan, 2014). As a result, it is fundamental for the employees working in dynamic environments to be rapid adaptive learner rather than only being a top performer (Karaevli and Hall, 2006). Individuals need to cope with change through their effective involvement in their roles as individuals, collaborators as part of a team, and leave a positive impact as members of the organization (Griffin et al., 2010). Consequently, employees' adaptive behavior is their ability to change and adjust their behavior and skills to fit well into the new environment through unceasing learning, acting various roles, and collaborating with coworkers (Ketkar and Sett, 2009; Qin and Nembhard, 2015; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014; Way, 2015, 2017; Wright and Snell, 1998), quickly align and reconfigure themselves in different situations and redeploy within diverse teams in response to the new demands resulted from the change (Charbonnier-Vorin, 2011; Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012; 2017Qin and Nembhard, 2015; Shoss et al., 2011; Way, 2015,).

Adaptive behavior leads to positive outcomes at the individual and organizational levels. At the individual level, the benefits include perceived heightened capabilities, career success, job satisfaction and organizational commitment (Charbonnier-Voirin et al., 2010; Cullen et al., 2014; Griffin et al., 2007; Shoss et al., 2011), which accordingly leads to organizational results such as responding to change and customer satisfaction (Dorsey et al., 2010). Consequently, employees who display adaptative performance at work possess excellent

problem-solving ability, tolerance to uncertainty and ability to handle work stressors, flexibility allied to people, organizational culture, and environment capability to learn new knowledge, skills and abilities and adapt to diverse contexts while altering and deploying their competencies in response to change (Charbonnier-Voirin et al., 2010; Park and Park, 2019; Pulakos et al., 2000; Shoss et al., 2011). Similar to proactive behavior, there are individual and contextual factors that influence the employee's adaptability, where the interaction between the two factors generates the adaptive behavior of the employees and enable their deployment at work (Park and Park, 2019; Shoss et al., 2011).

The individual factors that influence the employees adaptability are employees' personality traits, knowledge, skills and abilities, self-efficacy (Breevaart et al., 2015; Griffin and Hesketh, 2003; Griffin et al., 2010; Lee et al., 2018), emotional stability (Huang et al., 2014; Pulakos et al., 2002), and cognitive ability (Good, 2014; Le Pine et al., 2000; Pulakos et al., 2002) constitute the personal factors that influence the employees to exhibit adaptive behavior at work (Good, 2014; Griffin and Hesketh, 2005; Pulakos et al., 2002; Stewart and Nandkeolyar, 2006). Moreover, Eldor and Harpaz (2016) contend that employee engagement engenders the employee's adaptive behavior in a learning climate. Commonly, employees who enact adaptive behavior at work are open to change and new experiences, flexible to play multiple roles, move smoothly from role to another and able to work concurrently on diverse tasks with different teams and collaborate effectively (Sherehiy and Karwowski, 2014; Way, 2015, 2017). They also possess learning and interpersonal adaptability and ability to manage stress resulting from unforeseen changes and uncertainty (Charbonnier-Voirin and Roussel; 2012; Griffin et al., 2010; Sherehiy and Karwowski, 2014).

The essential contextual factors that stimulate the adaptive behavior are: the job characteristics that are conducive to adaptability are job autonomy and discretion by which employees have power and freedom to control their jobs (Alavi et al., 2014; Bindl and Parker, 2010; Charbonnier-Vorin, 2011), changing roles and task variety give the employees an opportunity to develop their adaptability by experience and exposure, as well as interpersonal ties for knowledge and information sharing accessibility, supervisor and coworkers support to ensure climate of trust, transformational leadership to empower employees and ensure continuous capabilities development (Charbonnier-Vorin et al., 2010; Charbonnier-Vorin and Roussel, 2012; Chiaburu et al., 2013), generally learning organization to foster learning climate within teams and individually (Charbonnier-Vorin, 2011; Eldor and Harpaz, 2016; Griffin and Hesketh, 2003; Griffin et al., 2010; Sherehiy and Karwowski, 2014). All the preceding factors are indispensable job resources that allow the employee to develop the needed competencies to enact adaptive behavior and fulfill the job demands (Bindl and Parker, 2010; Charbonnier-Vorin, 2011; Griffin and Hesketh, 2003; Qin and Nembhard, 2015).

In sum, possessing the necessary individual factors (e.g., personality, knowledge, skills and abilities (KSA), self-efficacy, emotional stability, and cognitive ability) are not sufficient to engage employees in adaptive behavior. It has to be coupled with contextual factors (e.g., job resources and demands) in order for employees to employ the resources effectively and react successfully to change and fulfill job demands (Bakker and Demerouti, 2007; Bindl and Parker, 2010; Demerouti et al., 2001; Park and Park, 2019; Shaufeli and Bakker, 2011; Shoss et al., 2011).

**Resilience.** Employee resilience is a personal capacity that is reinforced and developed by the organization's resources to thrive and survive in dynamic, turbulent and uncertain



business environment, continually adapt to challenging circumstances and face unpredictable change (Al-Hawari et al, 2019; Avey et al., 2009; Caniëls and Baaten, 2019; Carvalho and Areal, 2015; Kossek and Perrigino, 2016; Kuntz et al., 2017; Lengnick-Hall et al., 2011; Shin et al., 2012). According to Luthans (2002, p.702), employee resilience is the “positive psychological capacity to rebound or bounce back from adversity, uncertainty, conflict, failure, or even positive events, and increased responsibility”.

Employee resilience is one of the psychological capital constituents (e.g., self-efficacy, optimism, hope, and resilience) that permit the employees to handle work stressors and challenging circumstances (Luthans et al, 2006; Luthans, 2012). However, it is a state-like instead of trait-like capacity, meaning that it is a malleable resource that requires the individual-work environment interaction and the utilization of the organizational resources to be developed constantly (Kuntz et al., 2016; Luthans et al., 2007; Robertson et al., 2015; Wang et al., 2014). Specifically, employee resilience as a resource can be drained by time due to constant exposure to job demands, work stressors, and frequent changes (Al-Hawari et al, 2019; Cooke et al., 2016; Khan et al., 2017). This consequently could distract employees from taking the initiative to respond to these challenges and hinder their ability to adapt to the change (Van Der Vegt et al., 2015). Therefore, employee resilience necessitates an enabling organizational context and practices that contribute in developing the employees’ psychological capital, specifically resilience to continuously maintain this vital resource (Bustinza et al., 2016; Caniëls and Baaten, 2019; Cooke et al., 2016; Cooper et al. 2014; Kuntz et al., 2016, 2017; Luthans, 2012; McLarnon and Rothstein, 2013; Robertson et al. 2015).

Resilient individuals have certain characteristics in common as demonstrated in the literature. There are cluster of personality traits that leads to employee resilience (Bhamra et

al., 2011; Sinclair et al., 2013). For instance, Bhamra et al. (2011) asserted that resilient individuals trust that life is meaningful, have aptitude to improvise, and accept reality. They are distinguished by their positive emotionality (e.g., enthusiasm, optimism and exhibiting positive attitude towards life) (Avey et al., 2009; Youssef and Luthans, 2007), confidence, habitually curious and ready for new experiences and challenges, yet capable to recover and continuously learn from these challenges and conveniently adjust themselves to adapt positively in changing, uncertain environment and adversarial situations (Caniëls and Baaten, 2019; Khan et al., 2017; Lengnick-Hall et al., 2011). Due to their confidence, they are comfortable to practice their proactive behavior in response to challenging events and even propose ideas and solution to efficiently handle them (Caniëls and Baaten, 2019). However, as mentioned earlier, for employees to exhibit resilient behavior at work, organizations need to stipulate enabling organizational context that crystalize employee resilience (Cooke et al., 2016; Cooper et al. 2014). Kuntz et al. (2016) elucidated that the resilience behavior demonstrated by the resilient employees at work incorporates three main constructs, which are learning, adaptability and networking. Besides, there is emphasis in the literature that the core dimensions of employee resilience are problem solving ability, flexibility and interpersonal-social relationships (Robertson and Cooper, 2011; Russell and Russell, 2006).

As previously mentioned, employee resilience in its own is a personal resource that needs to be constantly fueled and developed by the organization's resources, which compel suitable organizational context and HR practices that contribute in developing the employee resilience as a positive vital resource (Cooper et al., 2014; Khan et al., 2017; Kuntz et al., 2017; Luthans and Youssef, 2007; Malik and Garg, 2017; Robertson and Cooper, 2011; Robertson et al., 2015). In this perspective, several studies explored and examined the suitable organizational context and practices that abet in providing the necessary resources in order to foster and

maintain the employee resilience. Primarily, personality trait is one of the antecedents of the employee resilience (Fisher et al., 2018; Kossek and Perrigino, 2016; Luthans 2002; Xanthopoulou et al. 2009). This is an explicit indication of the importance of the selection process incorporated in the HR practices, which determine the characteristics of the workforce suitable for agile organization. However, resilience as mentioned earlier is a developable behavior that requires constant support through training and development (Albrecht et al., 2015; Cooper et al., 2014; Demerouti et al., 2011; Robertson et al., 2015; Wang et al., 2014).

There is a general consensus that learning organizations promote emotions, which stimulate employee resilience and accordingly engenders work engagement (Bakker, 2011; Bakker et al., 2008). Hodliffe (2014) stated that employee resilience induces greater levels of engagement. Moreover, several studies emphasized that a learning organizational culture provide growth and development programs to their employees, which consequently heighten employee resilience (Caniëls and Baaten, 2019; Schaufeli and Bakker, 2010). Therefore, it is understandable that learning organization practices offer possibilities for stimulating positive emotions, which accordingly aid into developing employee resilience that successively leads to work engagement (Malik and Garg, 2017; Xanthopoulou et al., 2009).

The agile workforce's significant value is shaped by their ability to capture opportunities and capitalize on them, while dodging threats and appropriately adapt to change and its consequences (Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). Due to the workforce's crucial role in fostering organizational agility capabilities, and because they are a fundamental enabler of organizational agility, it is essential for organizations to constantly develop and maintain their competencies, satisfaction, and well-being (Alavi et al., 2014; Sherehiy and Karwowski, 2014) because their emotions, behaviors and capabilities are

susceptible to be impacted by the nature of the workplace and business environment, especially agility is mainly required in VUCA, turbulent and dynamic business environment where the employees are in constant exposure to unpredictable events and uncertainty (Charbonnier-Vorin, 2011; Teece et al., 2016). Therefore, understanding the characteristics of agile workforce and the factors that are stimulus to the desired behaviors and performance at work will lead to a healthy working environment that is conducive to organizational agility. Accordingly, the following section covers the organizational agility practices encompassing the practices that heighten the workforce agility, especially their proactivity, adaptability, and resilience behaviors.

### ***Practices of Agile Organizations***

Due to the absence of one unified set of practices adopted by all agile organizations, the literature on the practices that develop and boost the organizational sensing, seizing, and reconfiguring capabilities are examined. Several researchers (Goldman, et al., 1995; Charbonnier-Voirin, 2011; Kassim and Zain, 2004; Sherehiy et al., 2007; Vázquez-Bustelo et al., 2007) categorized the agility practices into four broad interdependent categories that act as an umbrella for more specific practices, which foster the sensing and responding ability of organizations. The four categories are as follows: 1) practices directed for mastering change, (2) practices fostering the value of human resources (encompassing organizational learning and knowledge development), (3) collaboration practices, and (4) value creation for customers practices. Similarly, Nijssen and Paauwe (2012) adopted in their research practices linked with workforce scalability, constant and quick organizational learning, and vastly adaptable organizational infrastructure, which are embedded in the four categories mentioned above with emphasis on the vital role of HRM in providing and regulating the practices that are relevant to employees' empowerment, involvement, and development (Alavi et al., 2014; Breu et al. 2001; Sherehiy et al. 2007; Qin and Nembhard, 2015).

The significant roles of HR practices stem from their responsibility to shape a climate of trust, collaboration and learning, while at the same time assure the provision of ample job resources that qualify the employees to fulfill the job demands without exhausting them physically nor mentally (Bakker et al., 2014; Charbonnier-Voirin, 2011; Nahrgang et al. 2011; Sherehiy and Karwowski, 2014; Wang et al., 2012; Wright and Snell, 1998).

Practices for mastering change are principally designed to develop an organization's ability to proactively and reactively respond to change. Accordingly, these practices are supposed to equip the employees with all the resources needed to facilitate the realization of this purpose as a job demand (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). Mastering change entails communicating well-defined strategic vision, individual, and collective objectives are linked with the organizational strategic agility, create scanning, and innovation processes to constantly observe the internal and external environment, which will facilitate rapid detection of the opportunities or threats in the market (Chakravarty et al., 2013; Charbonnier-Voirin, 2011). Consequently, there is a necessity for processes relevant to the flow of information and decision making to ensure real-time communication and access to knowledge and information (Park et al., 2017; Tallon and Pinsonneault, 2011).

Change culture in agile organizations is flourished through constant improvement, encouragement of improvization. and experimentation to habitually introduce innovative solution/products and services to customers, while looking forward and creating innovations that will delineate a new future (Dyer and Shafer, 1999; Shafer, et al., 2001; Sherehiy et al. 2007; Sherehiy and Karwowski, 2014). Organizations and workforce need to demonstrate positive attitude and tolerance towards changes, people, new ideas and advanced technology

(Ravichandran, 2017; Felipe, 2019; Sherehiy and Karwowski, 2014). Mastering change, therefore, requires fostering organizational learning, constant development and regeneration of the employees knowledge, skills and abilities, including proactive, adaptive and resilience behaviors (Charbonnier-Voirin, 2011; Dyer and Ericksen, 2006; Qin and Nembhard, 2015), frequently change and diversify tasks and responsibilities, moving from team to another, increasing their exposure to different situations and job demands as job-challenges from which they can learn and acquire new skills and knowledge (Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012; Sherehiy and Karwowski, 2014). All these, in turn, heighten their ability to cope with the change and easily reconfigurable and mobilized when needed (Sherehiy and Karwowski, 2014; Teece et al., 2016). In addition, forming robust ties internally and externally through networking and collaboration enable exchanging experiences, knowledge and information, and strengthen social support (Breu et al., 2002; Charbonnier-Voirin, 2011; Dyer and Shafer, 1999, 2003; Griffin and Hesketh, 2003; Hopp and Van Oyen, 2004; Qin and Nembhard, 2015; Sherehiy et al., 2007; Yusuf et al., 1999), which necessitate adopting advanced technologies to facilitate and expedite communication and collaboration (Chakravarty et al., 2013; Charbonnier-Voirin, 2011; Ravichandran, 2017; Roberts and Grover 2012; Felipe, 2019).

Practices leveraging and fostering human resources value intend to develop the workforce agility (proactivity, adaptivity and resilience) as an essential enabler of the organizational agility capabilities (Charbonnier-Voirin, 2011; Nijssen and Paauwe, 2012; Sherehiy and Karwowski, 2014). The focus of these practices is to develop the knowledge, skills and abilities of the workforce, empower and motivate them in order to behave agile and provide all the required resources to fulfill their jobs demands (Alavi et al., 2014; Breu et al., 2002; Dyer and Shafer, 2003; Dyer and Ericksen, 2006; Hopp and Van, 2004; Qin and

Nembhard, 2015; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014; Sumukadas and Sawhney, 2004; Van Oyen et al., 2001), while ensuring positive and psychological safe working environment to build their capacity to tolerate uncertainty and work stressors (Caniëls and Baaten, 2019; Charbonnier-Voirin, 2011; Cooper et al. 2014; Sherehiy and Karwowski, 2014). Accordingly, these practices are concerned with organizational learning, training and development, leadership support and development, collaboration internally and externally, employees' empowerment and rewarding (Alavi et al., 2014; Charbonnier-Voirin, 2011; Nijssen and Paauwe, 2012; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014).

The agile workforce participates in enabling organizational agility through their exploration of the business environment, monitoring the competitors in the market and comprehending the changes in the customer needs, while collaborating with the suppliers and partners to exchange knowledge, information and resources then transmit all the data collected and knowledge realized internally for experimentation to generate innovative new ideas and solutions, or introduce new adjustments and changes in the existing products or services in order to fulfill the customer changing demands or the unanticipated changes in the business environment (Park et al., 2017; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). Therefore, agile organizations adopt practices that empower workforce to be agile themselves through contribution in decision-making, power sharing, developing their leadership abilities and constantly improve their competencies (Crocitto and Youssef, 2003; Nijssen and Paauwe, 2012; Worley and Lawler, 2010). Agile organizations ensure that jobs are designed in a way that entails job autonomy and control in order to permit the workforce decide on the best way to manage their jobs and make the necessary actions and decisions based on their assessment to the situation and the consequences associated with it (Amos, 2000; Breu, et al., 2001; Dubey

and Gunasekaran, 2014; Dyer and Shafer, 1999; Nijssen and Paauwe, 2012; Shafer, et al., 2001; Van Oyen et al., 2001).

Furthermore, these practices incorporate job enrichment and job rotation in the individual's development plan (Charbonnier-Voirin, 2011; Qin and Nembhard, 2015; Sumukadas and Sawhney, 2004) and job design to facilitate multiple skills acquisition and increase the employees' repertoire of skills, whilst providing constant training and development involving cross-trainings and maintaining climate of continuous learning (Charbonnier-Voirin, 2011; Demerouti et al., 2011; Dyer and Ericksen 2006; Dyer and Shafer 2003; Hopp and Van Oyen, 2004; Lepak and Snell, 2008; Sherehiy and Karwowski, 2014; Qin and Nembhard, 2015; Robertson et al., 2015; Sumukadas and Sawhney 2004; Wright and Snell, 1998). At the same time, forming collaborative multifunctional teams and equip them with tools including technology allocated to foster collaborators' skills, enable access to knowledge and information and facilitate communication to make efficient decisions rapidly (Bottani, 2010; Charbonnier-Voirin, 2011; Crocitto and Youssef, 2003; Eshlaghy et al., 2010; Way, 2015, 2017). Also, developing the workforce ambidextrous mindset is vital to foster employee creativity and innovation which permit creating innovative products and services or renewing the existing products/services to fulfill the customers changing demands (Felipe et al., 2019; Halevi et al., 2015; Hansen et al., 2017; Nijssen and Paauwe, 2012). The ambidextrous mindset is developed through organizational learning, specifically two learning activities: the first exploration signifies searching, variating, experimenting and discovering new knowledge, while the second exploitation is linked with the refinement, efficient utilization and implementation of existing knowledge and competencies (Hansen et al., 2017; Kostopoulos et al., 2015; Teece, 2010). Both activities are significant because while workforce are making use of the existing knowledge and information gained during the learning process by exploiting this knowledge to adapt with



change, they constantly generate new knowledge and capabilities through exploration to avoid using obsolete knowledge due to fast-paced change and ensure constant innovation (Nijssen and Paauwe, 2012; O'reilly III and Tushman, 2013; Sherehiy and Karwowski, 2014).

Consequently, agile organizational context reinforces exploration and exploitation through embedding organizational learning, which encompasses ambidexterity and collaboration into the system because the workforce learn and acquire new KSAs that are conducive to agility not only through trainings provided, but also by exchanging knowledge and experiences internally and externally that permits realizing the trends and changes in the external environment while reflecting and brainstorming internally to generate novel solutions and capabilities (Breu et al., 2002; Charbonnier-Voirin, 2011; Felipe et al., 2019; Malik and Garg, 2017; Nijssen and Paauwe, 2012; Park et al., 2017; Qin and Nembhard, 2015; Sherehiy et al., 2007; Tallon and Pinsonneault; Teece et al., 2016; Teece, 2007). Through this, the organization is creating a context that permits sensing and responding to opportunities in the market ahead of rivals (Jansen et al., 2012; Teece et al., 2016). However, taking initiative, exploration and exploitation, proposing novel solutions and making efficient yet rapid decisions require psychologically safe and secured environment where the workforce is not anxious of blame or punishment due to possible failure to attain the desired outcome (Avey et al., 2009; Bakker and Demerouti, 2007; Caniëls and Baaten, 2019; Charbonnier-Voirin et al., 2011; Guest, 2017; Malik and Garg, 2017; McCormick et al., 2019). Therefore, leader's and coworkers' support and trust, in addition to autonomy and competency are fundamental reinforcements that build the employees' resilience, which encourage them to behave proactively and adaptively to change (Al-Hawari et al., 2019; Caniëls and Baaten, 2019; Chiaburu et al., 2013; Cooper et al., 2019; Griffin et al., 2010; Kuntz et al., 2016, 2017;

Lengnick-Hall et al., 2011; Liu et al. 2016; Luthans et al., 2006; Parker and Collins 2010; Malik and Garg, 2017).

Hence, leadership support and coworker's collaboration play significant roles in creating supportive social climate based on trust, which encourage the employees to confidently take initiative and experiment without fear and share the knowledge and information they possess to rapidly and efficiently respond to change (Collins and Smith, 2006; Charbonnier-Voirin et al., 2010; Dubey and Gunasekaran, 2014; Fuller et al. 2015; Sarker and Sarker, 2009). Additionally, several authors emphasized the significance of motivating employees individually and collectively through reward and recognition to maintain their satisfaction (Charbonnier-Voirin, 2011; Crocitto and Youssef, 2003; Dyer and Shafer, 1999; McClean and Collins, 2011; Nijssen and Paauwe, 2012; Sherehiy and Karwowski, 2014). Agile organizations consider skill and knowledge-based incentives to encourage skills acquisition (Crocitto and Youssef, 2003; Eshlagy et al., 2010; Sumukadas and Sawhney, 2004), individual performance-based pay to motivate positive attitude towards changes and stimulate desired behaviors (Crocitto and Youssef, 2003; Hopp and Van Oyen, 2004), also team performance-based incentives to promote collaboration (Dyer and Shafer, 1999; Crocitto and Youssef, 2003; Zhang, 2011). In addition to non-monetary incentives, performance feedback and recognition (Sumukadas and Sawhney, 2004; Sherehiy and Karwowski, 2014). Therefore, agile organizations adopt HR practices to uncertain and dynamic environments accountable for creating a context that improves workforce agility and motivate employees for discretionary initiatives in an effort to create or seize valuable change, foster their flexibility and adaptability to reconfigure and mobilizes rapidly in response to change, and, in turn, participate in generating organizational agility capabilities (Alavi et al., 2014; Cooper et al., 2014; Khan et al., 2017; Nijssen and Paauwe, 2012; Martínez-del-Río et al., 2012; Robertson et al., 2015).

Practices designed to promote cooperation/collaboration are practices that intend to develop organizational agility capabilities through internal and external cooperation (Charbonnier-Voirin, 2011). In other words, agile organizations form strong ties with all the key stakeholders in their eco-system to ensure fast and horizontal access to knowledge, information, data and resources, accordingly foster their responsiveness and adaptiveness to change while enhancing their offering and upsurge the organization's prospective for innovation (Sherehiy and Karwowski, 2014). Thus, the organizational systems, units, processes and work organization are designed to promote effective cooperation internally and externally.

Internally, the departments, units and subunits are designed based on cross functional, self-directed teams with common goals, collaborating together and supporting each other to efficiently and rapidly fulfill the job demands (e.g. completion of projects, developing innovative products and services to be ahead of rivals, customers' satisfaction, unforeseen changes in the customer requirements, unforeseen changes in the market trends, new technology integrated in the work processes (Breu et al., 2002; Charbonnier-Voirin, 2011; Qin and Nembhard, 2015; Yusuf et al., 1999). Therefore, the organizations select and assimilate multi-skilled team members with different profiles, who possess collaborative attitude (e.g., openly share knowledge and information, accepting different opinions and communicate easily with team members), and can easily fit in diverse teams as they move regularly from team to another to ensure rapid responsiveness to change and at the same time the workforce will certainly acquire new skills and develop flexible behavior as they handle different situations/projects/job tasks with different teams (Dyer and Shafer, 2003; Hopp and Van Oyen, 2004; Qin and Nembhard, 2015; Sherehiy et al., 2007). Teams are formed based on the organizational strategic agility core principles and objectives, which signifies forming teams

based on knowledge and information sharing and at the same time team members cooperate on fulfilling job demands. Hence, teamworking ensure rapid responsiveness to change, stimulate innovation and promotes social climate of support and trust within the organization (Collins and Smith, 2006; Sarker and Sarker, 2009). Accordingly, knowledge sharing and social support enable quick access to information and foster learning and skills development (Charbonnier-Voirin, 2011; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014), that is because teams are built based on collaboration rather than competition, which in turn stipulates safe environment for exploration and experimentation (Sherehiy and Karwowski, 2014), which consequently foster the workforce agility in response to change (Alavi et al., 2014; Charbonnier-Voirin, 2011; Qin and Nembhard 2015).

Externally the organizations in dynamic business environment started to rethink their boundaries and extend their systems to involve the key players into their business ecosystem and form strong bonds with them (Felipe et al., 2019; Sherehiy and Karwowski, 2014; Wilden et al., 2013). The key players include suppliers, partners, customers and even competitors (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). Agile organizations are customer and employee centric and that is why the organizational practices are centered around these two focal points. Organizations establish partnership on the basis of exchanging knowledge, data, expertise and resources to generate real opportunities for value creation (Dubey and Gunasekaran 2014; Felipe et al., 2019; Sherehiy and Karwowski, 2014). This cooperation is very beneficial for all parties because it also implies sharing risks and reducing threats due to uncertainty nature of the business environment (Dubey and Gunasekaran 2014). External cooperation is very crucial for agile organizations because it reinforce the organizational sensors to detect the potential changes and opportunities in the business environment and fortify their responsiveness and adaptiveness to change by unceasingly realign the internal systems,

process and resources based on the output resulted from the external cooperation (Charbonnier-Voirin, 2011; Felipe et al., 2019; Teece et al., 2016). Moreover, the exchange-based relationship assists in improving and fostering the organizational learning and ambidexterity as it brings new sources of knowledge and information that contribute in individuals and teams' competencies development (Felipe et al., 2019; Halevi et al., 2015; Nijssen and Paauwe, 2012).

Most of the time, different parties in the ecosystem interact with each other and form mutual teams that collaborate and exchange their expertise and knowledge to come up with innovative ideas, solutions, products and services, which in turn foster the individuals and team's creativity and capabilities (Charbonnier-Voirin, 2011). It also allows the organization to access advanced technologies and resources needed to facilitate organizational adaptivity to change (Sherehiy and Karwowski, 2014). Likewise, cooperating with the customers ensures producing customer driven solutions and products that meet their needs, and that requires listening to the customers' feedback and involving them since early stages of the products realization (Charbonnier-Voirin, 2011; Dubey and Gunasekaran, 2014; Sherehiy and Karwowski, 2014). These activities contribute to fostering the organizational ability to sense and respond to change in fast-paced dynamic environment (Alavi et al., 2014; Charbonnier-Voirin, 2011; Felipe et al., 2019; Qin and Nembhard 2015; Sherehiy et al., 2007; Sherehiy and Karwowski, 2014).

Practices for customers' value creation are concerned with sensing and responding to the customer needs, continuously providing innovative products and services ahead of rivals and adding value to the customers by providing real solutions to their needs (Felipe et al., 2019; Overby et al., 2006; Qin and Nembhard, 2010; Sambamurthy et al., 2003).

In fact, changes in customers' demands are the main drivers of agility, based on which organizations choose to adopt strategic agility in order to build their capabilities to sense and respond in a timely manner (Teece et al., 2016). Moreover, agile organizations are customer centric organizations, their main focus is enriching the customer experience, providing innovative high-quality products and services of great value to the customers and pay great attention to customers' needs and preferences (Charbonnier-Voirin, 2011; Felipe et al., 2019; Roberts and Grover, 2012). Therefore, agile organizations create deep knowledge of the customers' preferences and behavior by collecting data about the customers (current and potential) from diverse sources, listening to the customers' voice, and engage the customers especially during the exploration and exploitation of opportunities for innovation and competitive movements to proactively sense any changes in their demands (Felipe et al., 2019; Sambamurthy et al., 2003). Thus, rapidly act on the knowledge and data collected by analyzing, assimilating, transforming and exploiting the knowledge gained to make efficient decisions and rapidly align the internal operational process and reconfigure resources (including people) to develop innovative new products and services or improve the existing ones in order to be perceived by the customers as real solution to their needs (Felipe et al., 2019; Lu and Ramamurthy 2011; Pavlou and El Sawy, 2011; Teece, 2007; Zahra and George, 2002). This way, organizations guarantee rapid sensing and responding to customers' needs, promote the internal operation agility (Felipe et al., 2019; Ravichandran, 2018), eliminate the uncertainty usually resulted from the unforeseen changes in the customer demands (Darvishmotevali et al., 2020; Dubey and Gunasekaran, 2014; Felipe et al., 2019; Roberts and Grover, 2012) and attain customer satisfaction and retention (Mikalef and Pateli, 2017; Qin and Nembhard, 2010).

Finally, organizational agility (OA) is a necessity for organizations aspire to thrive and survive in nowadays turbulent and dynamic business environment. OA is a key dynamic

capability that enables organizations to continuously and rapidly sense and respond to changes in their business environment, capitalize on opportunities, minimize threats to survive, and maintain sustainable competitive advantages over their rivals. There is 'no one size fit all OA package', as organizations need to realize first the drivers of being agile, assess their current agility level, and fill the gap through the agility providers and practices that enable the organizations to establish their agility capabilities. Workforce is a vital enabler of organizational agility. Therefore, it is essential for the organizations to constantly maintain the workforce agility (e.g., proactiveness, adaptiveness, resilience and competencies), equip them with the necessary resources to fulfill their job demands and at the same time build their resilience against the job stressors. Besides, selecting the right workforce that fits into such a working environment and take part in enabling the organizational agility. The next section explores the human resources flexibility that are believed to be a dynamic capability essential for organizational sustainability in dynamic or turbulent business environment. The practices that are conducive to organizational agility and workforce agility involve HR practices that are crucial to develop the agility capabilities and at the same time maintain safe and secured working environment for the workforce to endure work stressors, especially in uncertain and fast-paced working environment and at the same time provide all the necessary resources to fulfill job demands and organizational goals (Bhattacharya et al., 2005; Camps et al., 2015; Chang et al., 2013; Dyer and Shafer, 2003; Hopp and Van Oyen, 2004; Fink and Newman, 2007). Doz (2019) emphasized that HR practices play fundamental roles in selecting and developing the workforce to always prepare them to contribute in enabling strategic agility for future sustainability and success, and not only reacting to current conditions.

## **Human Resources Flexibility**

In dynamic or turbulent business environments, static HR practices will not be pertinent to take part in developing the organizational responsiveness to unpredictable rapid change (Bhattacharya et al., 2005; Teece et al., 2016; Wright and Snell, 1998). Developing flexible workforce with a pool of diversified skills and behaviors is pivotal for agile organizations (Bhattacharya and Wright, 2005; Ketkar and Sett, 2010; Way et al., 2015) and compels them to adopt flexible human resources practices that ensures the continuity in acquiring, renewing and developing the employees' skills and behaviors to be reconfigured flexibly and allow the organization to make the essential operational adjustments in response to change (Luu, 2019; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). In all respects, HR flexibility (HRF) contributes in developing the organization's dynamic capabilities as it enables the organization to adapt to turbulent and dynamic environment by adapting employees' knowledge, skills and behaviors to rapidly changing business environment (Camps et al., 2015; Ketkar and Sett, 2009; Tracey, 2012; Úbeda-García et al., 2016, 2017; Way et al., 2017). These are attainable through providing wide range of alternative uses of the organizations' resources and diverse ways to rapidly acquire, deploy, redeploy and develop the resources at minimal costs. Accordingly, employees will be able to deliver wide range of strategic alternatives to the organization to maintain sustainable competitive advantage in dynamic business environment (Ketkar and Sett, 2010; Tracey, 2012; Úbeda-García et al., 2016, 2017) and to always provide new options and solutions to the customers (Way et al., 2015). Nevertheless, attaining this goal entails investing in the workforce and providing the resources needed to develop and foster their flexibility and adaptability to change (Luu, 2019; Úbeda-García et al., 2016, 2017; Way et al., 2015, 2017). The inflexibility of a resource contributing in the product or service creation could lead to hindrance in the entire product creation process; accordingly, inability to respond



efficiently and rapidly to customers' or business environment's changing demands (Ketkar and Sett, 2009; Way et al., 2015).

HRF is defined as the degree to which employees possess wide-range of skills and behaviors that can permit the organization to provide strategic alternatives in responding to change or customer demands (Wright and Snell, 1998). Bhattacharya et al. (2005) asserted that HR flexibility is organizational level capability attained due to the flexibility of the employees' skills and behaviors, employed through flexible HR practices. Chang et al. (2013) stated that HR flexibility permits organizations to identify, integrate, renovate, and exploit new knowledge and thus promote heightened organizational responsiveness to market demands and boost its innovativeness. Way et al., (2017, p.1) defined HR flexibility as "a firm level capability that represents the extent to which a firm's human resources and HR practices enable the firm to be responsive to changes in competitive outputs and pressures and readily and effectively pursue strategic courses of action in response to competitive changes". Consequently, we can conclude that HR flexibility ensures the HR practices and employees' competencies (skills and behavior), constant alignment and adaptation to change. Hence, it participates in fostering organizational capability to sense and respond to change (Úbeda-García et al., 2017).

In the HRM field, majority of the frameworks were drawn from the RBV theory, which emphasizes the uniqueness and the careful selection of the firm's resources (Barney, 1991). However, as mentioned earlier, several researchers asserted that dynamic capabilities theory is an extension of the RBV theory, as it demonstrates the significance of continuity in renewing and reconfiguring the firms' resources to sustain a competitive advantage in dynamic environment (Teece, 2007; Teece et al., 2016). Accordingly, HR flexibility is not only about acquiring and selecting flexible workforce, but also about constant regeneration of the

employees' skills and knowledge and stimulate desirable behaviors that motivate them to demonstrate flexibility in response to change (Úbeda-García et al., 2017; Way et al., 2015, 2017). Attaining this requires equipping the employees with the necessary resources to develop their KSA, and at the same time empowering the employees and giving them the opportunities to utilize these resources and willingly respond flexibly to their new job demands (Luu, 2019; Úbeda-García et al., 2017).

In this context, several researchers affirmed HRF as a valuable dynamic capability that enable the organization to adapt to altering business environment contingencies (Camps et al., 2016; Teece, et al., 2016; Úbeda-García et al., 2017). HRF designated as a significant competency of the organization to predict or react to dynamic competitive environments and, thus, develop and preserve competitive advantage over rivals (Ketkar and Sett, 2009, 2010; Teece, 2007; Tracey, 2012; Wright and Snell, 1998). HRF is revealed by the versatility of the organization's HR practices and employees' competencies (e.g., skills and behaviors) and the large number of alternative uses of these practices and competencies. This postulates HR flexibility as an essential factor of strategic flexibility that fosters the organizational capability to efficiently align its resources, foster the human resources capacity, motivate the employees to exhibit proactive and adaptive behaviours when confronted with changing circumstances and give them the opportunity and autonomy to control their jobs, redesign and introduce adjustment to the work organization (Bhattacharya et al., 2005; Camps et al., 2016; Ketkar and Sett, 2010; Way et al., 2015).

Consequently, HRF incorporates flexible HR practices that can be identified, developed and deployed rapidly in diverse contexts to contribute in maximizing the workforce flexibility. These practices ensure constant development and renewal of employee's KSA to efficiently

and timely fulfill the customers'/job's changing demands (Bhattacharya et al., 2005; Way et al., 2017), while providing support and constantly empowering the employees to efficiently and timely utilize their repertoire of wide range of skills and behaviors in diverse contexts to handle challenging or new job demands beyond their job responsibilities resulting from the change (Beltrán-Martínet et al., 2008; Bhattacharya et al., 2005; Luu, 2019; Tuan, 2016; Way et al., 2015; Úbeda-García et al., 2017). Consequently, HR flexibility is a necessity in highly dynamic industries due to the immense need for employees with wide range of skills and behavioral repertoire and the ability of the HR practices to effectively and rapidly reconfigure the human resources in response to unforeseen changes (Martínez- Sánchez et al., 2011; Tracey, 2012). Thus, HRF is deemed to be a resource for the employees because it develops their wide-range of skills and behavioral repertoire and equips them with the necessary competencies and resources to confidently be engaged in change beyond their outlined responsibilities and efficiently fulfill their new job demands (Luu, 2019; Tuan, 2016; Úbeda-García et al., 2017; Way et al., 2017, 2018), this reflect the employees' role breadth self-efficacy (RBSE) (Parker and Collins, 2010), demonstrated in the employees' capacity to flexibly transcend their roles and exhibit proactive and (Luu, 2019; Preenen et al., 2015; Tuan, 2016).

In that sense, HRF is conceptualized as organization-level capability that encompasses three main constructs: (1) HR practices flexibility (HRPF), (2) employee skills flexibility (ESF), and (3) employee behavior flexibility (EBF) (Bhattacharya et al., 2005; Way et al., 2015). These constructs indicate the degree to which workforce possess a range of skills and behavioral repertoires and the degree to which the HR practices efficiently utilize the workforce in developing the organizational agility capabilities to thrive and survive in dynamic business environment (Bhattacharya et al., 2005; Luu, 2019; Úbeda-García et al., 2016, 2017; Wright and Snell, 1998). Each construct entails two features, resource flexibility and coordination

flexibility (Way et al., 2015), whereas resource flexibility indicates the extent to which the resources are broad and varied that can be applicable for alternative uses and in different contexts (e.g., diverse uses of the organization's resources including the HR practices, employees' skills and behavior) (Ketkar and Sett, 2010; Way et al., 2017). On the other hand, the coordination flexibility signifies the ability of the organization to smoothly and quickly acquire, reconfigure and redeploy its resources to pursue its strategic objectives (Ketkar and Sett, 2010; Way et al., 2017).

### ***Human Resources Practices Flexibility***

HRPF is the degree to which the HR practices can be adapted and implemented through various situations, or in different sections or units of the organization beside the extent to which the organization can rapidly resynthesize, reconfigure and redeploy the HR practices (Beltrán-Martín et al., 2008; Bhattacharya et al., 2005; Chang et al., 2013; Ketkar and Sett, 2009, 2010; Úbeda-García et al., 2017). The flexibility of the HR practices entails two aspects; first, the resource flexibility, which is the ability to adapt and apply the HR practices across diverse situations or different unites/departments inside the organization (Beltrán-Martín et al., 2008; Way et al., 2015). Second, the coordination flexibility includes the rapidity to deploy, adapt and reconfigure the HR practices in response to change (Way et al., 2015). More precisely, HR practices are flexible when the organization's existing HR practices can be efficiently implemented across a wide range of employees in diverse contexts (e.g., departments, jobs, projects, and situations) and utilized to perform diverse work demands (Way et al., 2015). Nevertheless, the flexibility of the HR practices is specifically crucial in dynamic and turbulent environment where the ease and rapidity of adaptation to change is indispensable (Úbeda-García et al., 2017). In fact, when the organization encounters any change, the HR practices can rapidly and flexibly be adjusted to assimilate the new conditions and at the same time equip the employees with the necessary resources to rapidly and efficiently respond to change

(Martínez-Sánchez et al., 2011; Úbeda-García et al., 2017). Thus, it enables the organizations to alter and align their human resources base to engender new sources of competitive advantage in dynamic environment (Eisenhardt and Martin 2000; Ketkar and Sett, 2010; Teece et al., 2016; Tracey, 2012)

HRPF is vital for the employee's flexibility because these practices ensure adaptation to change by constant provision of aligned resources, and facilitating access to up-to-date knowledge and information that prepare the workforce for any future changes, and nurture them with the necessary KSA (Ketkar and Sett, 2010), in addition to providing working conditions and job characteristics that ensure maximum exposure to knowledge and information, provision of social support and feedback, coupled with autonomy required to boost their flexibility and adaptability in handling their new job tasks (Chang et al., 2013; Luu, 2019; Úbeda-García et al., 2017; Way et al., 2015,2017). Thus, HRPF involves the organization's investment in their employees' skills and knowledge constant improvement to amplify their adaptability and flexibility (Way et al., 2015), equips them with all the necessary resources in the face of any challenging job demands resulting from the change (Way et al., 2017), and ensures that those employees are rapidly deployed in the right place, having appropriate competencies, are motivated and given the opportunity to exert discretionary effort and proactively respond to change (Beltrán-Martín et al., 2008; Jiang et al., 2012; McClean and Collins, 2011; Úbeda-García et al., 2016, 2017).

Therefore, the HR practices that fosters the employees' flexibility are revolving around three main axes. First, HR practices need to constantly boost the employees' competencies (KSA) to widen their skills and behavioral repertoire (Beltrán-Martín and Roca-Puig, 2013; Way et al., 2015). Second, these practices provide the opportunities for employees to utilize the

organizational resources and the freedom to discretionarily manage their work (Úbeda-García et al., 2017; Way et al., 2018). Third, these practices constantly motivate and empower the employees to proactively and willingly utilize their knowledge and skills repertoire, behave proactively, and flexibility to improvise in new contexts, resolve complex or new situation to them and handle non-routine job tasks (Beltrán-Martin and Roca-Puig, 2013; Camps et al., 2015). Nevertheless, these practices need to ensure constant alignment with any internal or external changes and provide apt conditions and work climate that foster employees' flexibility (skills and behaviors), which in turn boost the organizational ability to respond to change (Luu, 2019; Úbeda-García et al., 2017; Way et al., 2015).

The extant research in the HRM field highlighted the practices that foster the employees' skills and behavioral flexibility, such as participation in decision making, employee empowerment and employee communication. These practices permit organizations to have a business acumen concerning the changes occurring or might occur in their business environment (Camps et al., 2015; Way et al., 2018). Employees through their networks internally and externally can exchange knowledge and information, and that accordingly enable them to sense the change before it occurs. Therefore, employees in such context act proactively and propose alternative strategic solution that support the organization to maintain sustainable competitive advantage and robustly face change (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015).

Moreover, previous research on HR found that selection and staffing, training and development, performance management and appraisal, rewarding and incentives, compensation, job enrichment, job rotation, team-based work structures, employee empowerment and involvement, when properly designed and implemented, can thus foster

employees' skills and behavioral flexibility. For instance, flexibility in training and development practices cultivate the employees with diverse knowledge and skills because they are applied on diverse units/departments and at the same time are rapidly modified to deal with all the changes happening in the business environment (Way et al., 2015). Accordingly, various employees in different parts of the organization receive the same up-to-date training, and can develop knowledge and skills concerning different areas, which enable them to easily and confidently handle diverse roles and tasks (Way et al., 2015). Moreover, flexibility in performance management and rewarding system practices reinforce employees adaptive and proactive behaviors by implicating performance appraisal criteria associated with developing new skills and behaviors, which boost employees' confidence to demonstrate proactive and adaptive behavior. Furthermore, the performance management system incorporates concrete feedback and developmental propositions linked to employees' proactivity and adaptivity improvement. Similarly, HR practices ensure formulating non-traditional rewarding system that intrinsically and extrinsically motivate employees to display proactive and adaptive behavior in addressing new job demands and challenging situations (Menguc et al., 2012; Sherehiy and Karwowski, 2014; Way et al., 2015). These flexible practices could be easily adjusted and linked with skills and knowledge acquisition while the coordination aspect of the HRPF ensures the existence of motivational and empowerment practices that constantly encourages the employees to proactively improve their capability to surpass their roles or adapt to new ones (Tracey, 2012).

In fact, these practices help employees learn and acquire a wide range of skills and knowledge, augment the employees' continual exposure to new situation and new challenges, which help the employees develop wide range of skills and behavioural repertoires to be utilized when confronted with any change (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015;

Ketkar and Sett, 2009, 2010; Sanyal and Sett, 2011). Nevertheless, HRPF is focused on redesigning jobs in a way that promotes flexibility. They are focused on enhancing the employees' ability to perform a diverse task and to constantly learn and acquire new KSA and, at the same time, foster the employees' proactive discretionary behaviour and give them the opportunity to exhibit these behaviors (Úbeda-García et al., 2017). Therefore, HRPF ensure designing job characteristics that entail autonomy, skill variety, performance appraisal, and feedback (Beltrán-Martin and Roca-Puig, 2013; Jiang et al., 2012), which enable the employees to rearrange their work in the way they see appropriate to handle new challenges/situations, anticipate the resource required to fulfill the job demands and introduce changes in their jobs tasks to be able to respond efficiently to the new job requirements (Jiang et al., 2012; Luu, 2019; Tuan, 2016; Úbeda-García et al., 2017).

Beltrán-Martín and Roca-puig (2013) found that job enrichment is one of the essential HR practices that significantly influence employee's flexibility. Job enrichment denotes redesigning jobs responsibilities and create job characteristics that provide employees with interesting, meaningful and challenging job tasks that eradicate routinized work and instead offers intrinsically satisfying work (Rubenstein et al., 2017). Job enrichment promotes employee's flexibility because it shapes their expected role inside the organization. It provides the employees with range of activities and responsibilities which augment their capability to handle tasks beyond the pre-proposed job duties outlined in their job descriptions. Also, it gives an opportunity for acquiring diversified skills, continuous knowledge update and increase employee role-breadth self-efficacy due to increased sense of responsibility, improved competencies and autonomy in planning and controlling work, all this in turn foster the employee's flexibility (Beltrán-Martín and Roca-puig, 2013; Ketkar and Sett, 2009 Preenen et



al., 2015) and organizational commitment (Beltrán-Martín et al., 2008, 2013; Camps et al., 2016; Ruiz-Palomo et al., 2020).

Moreover, Sumukadas and Sawhney (2004) asserted that skill-based pay, improvement-based incentives and intrinsic rewards were shown to promote employees' flexibility than the usual compensation practices. These practices are associated with competencies acquisition and improvement, which are coherent with and at the same time can be easily adjusted to adapt to change. Additionally, cross-training is indicated as a practice that enables the employees to acquire diversified skills and knowledge and at the same time facilitates the employees' reconfiguration and reallocation across different departments, teams or projects to efficiently fulfill new job demands (Easton, 2011; Hopp and Van Oyen, 2004). All these practices demonstrate the flexibility in the HR practices because they are tailored to adapt to change and constantly regenerate and develop employees' skills and behaviors (Way, 2018).

Furthermore, HRF relies on learning, knowledge sharing and collaborative practices because they assist in constantly engendering and developing employees' flexibility (Luu, 2016; Petrou et al., 2017; Way et al., 2015). A learning environment allows interaction with the external environment and enables opportunities exploration, knowledge acquisition and strengthens the employees' external and internal network through knowledge sharing and collaboration (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015). At the same time, knowledge sharing and collaboration/team-based work reinforce supportive social context in the workplace, which leads to speedy flow of knowledge and information among individuals and teams, and build trust and transparency among the workforce (Way et al., 2017). In turn, those practices lead to improvement and augmentation in the employees' skills and knowledge, and strengthen the relationship between the employees due to knowledge sharing and support

(Tuan, 2017). In addition, they ensure rapid completion of tasks and job demands due to social support (Camps et al., 2015; Úbeda-García et al., 2017; Way et al., 2015). HR flexibility similarly forms the learning motivation in employees for greater adaptability (Way et al., 2015). Knowledge generation and knowledge sharing are fundamental for HR flexibility, since they do not only enable information circulation among team members, but also create new knowledge through the consolidation of all the information shared with all team members and replenish the team's knowledge and skills repository with wide-range of information (Tuan, 2017). Subsequently, they elicit divergent thinking and actions, which heighten the workforce/team flexibility and stimulate their proactivity to handle new or complex situations and fulfill job demands that result from change (Gong et al., 2012; Tuan, 2017; Way et al., 2015). Accordingly, employee flexibility bestows the organization with the abilities to explore new opportunities and exploit these opportunities either by generating new products/service or solution or by modifying the existing ones to relentlessly face the change and maintain competitive advantage (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015; Ketkar and Sett, 2009).

### ***Employee flexibility***

Employee flexibility has been recognized as a dynamic capability of ultimate significance in enabling organizations to face turbulent and dynamic business environments (Eisenhardt and Martin, 2000; Teece et al., 2016). Consequently, several studies examined the main constructs of employee flexibility and the relevant HR practices that promote and reinforce employees' flexibility in such business environment (Beltrán- Martín and Roca-Puig, 2013; Bhattacharya and Wright, 2005; Camps et al., 2015; Ketkar and Sett, 2009, 2010; Way et al., 2015, 2017). Beltrán- Martín and Roca-Puig (2013, p. 648) defined employee flexibility, as “the extent to which employees possess skills and behavioral repertoires that can provide a

firm with options to pursue strategic alternatives”. Hence, flexible employees can apply array of diverse strategies that are apt to realize diverse challenging demands confronting the organization (Camps et al., 2015).

Under conditions of dynamic or highly turbulent business environment, individuals suitable for this environment are characterized by their eagerness to continuously learn and acquire diverse new skills, knowledge sharing, autonomous yet collaborative, open to change, capable to adapt in changing work environment, proactively take initiative and improvise to handle new situations or new job demands through new approaches different from the traditional ways followed to handle standard repetitive job duties (Beltrán-Martín and Roca-Puig, 2013; Camps et al., 2015). They attain these capabilities by showing diversified behavioral repertoires and utilizing their diversified skills to rapidly and efficiently participate in generating strategic alternatives and can respond to change (Beltrán-Martín and Roca-Puig, 2013; Beltrán-Martín et al., 2008; Camps et al., 2015; Way et al., 2015, 2017). Therefore, employee flexibility encompasses employee skill flexibility and employee behavioral flexibility, and propel the organizational overall agility (Bhattacharya and Wright, 2005; Way et al., 2015). These capabilities allow employees to confront environmental dynamism and turbulence, and compel them to drive for change, learn and take risks to be able to tackle the environmental dynamisms, complexity and uncertainty (Camps et al., 2015).

One of the main attributes of flexible employees is their ability to handle wide range of diversified tasks (Wright and Snell, 1998; Way et al., 2015). Beltrán-Martín and Roca-Puig (2013) elaborated that this view resembles the idea of polyvalence or workforce versatility, which implies the employees’ ability to perform diverse tasks under varied circumstances, and that ultimately lower the cost and time needed to redeploy them to handle new roles or new job

demands (Beltrán-Martín et al., 2008; Camps et al., 2015). This demonstrates the dynamic nature of this dimension because it necessitates continuous development of employees' competencies to efficiently handle diversified tasks and new job demands (Ketkar and Sett, 2010). Furthermore, employees are flexible when they are capable to predict future skills required to fulfill future needs and demonstrate their willingness to learn new methods to accomplish their jobs (Camps et al., 2015; Dyer and Ericksen, 2006). This notion corresponds to the anticipation capability of the flexible employees, which implies that employees are capable to sense new business requirements and learn new approaches to quickly respond to the new job demands resulted from the change (Bhattacharya et al., 2005; Camps et al., 2015). Additionally, flexible employees demonstrate self-initiating proactive behavior to extent that they create the change instead of exploiting their standards job tasks (Ketkar and Sett, 2010). Lastly, employee flexibility emanates from employees' ability to exhibit adaptive behavior that incorporates a variety of repertoires, which enable the employees to improvize and create new scripts (ways) to tackle new situations/job demands other than choosing the usual ways the employees used to follow in handling familiar repetitive situations (Bhattacharya et al., 2005; Way et al., 2015). Accordingly, employees modify their responses to adapt to new conditions, refraining from sticking to fixed pattern of actions in responding to new job requirements/situations (Bhattacharya et al., 2005; Dyer and Ericksen, 2006). Therefore, adaptive employees are remarkably open to change and realize the significance of efficiently and rapidly respond to dynamic or turbulent business environment (Camps et al., 2015; Ketkar and Sett, 2010; Tracey, 2012). Employee flexibility is composed of employees' skill and behavioral flexibility (Beltran-Martin and Roca-Puig, 2013), which are two dimensions of the HRF (Bhattacharya et al. (2005).

### **Employee Skill flexibility (ESF)**

Wright and Snell (1998, p.764) state that ESF is the “number of potential alternatives uses to which employee skills can be applied and how individuals with different skills can be redeployed quickly”. Thus, flexibility of employee skills entails possessing a wide range of diverse knowledge and skills by which employees can rapidly utilize them to perform diversified job demands and tasks beyond their job routine duties (e.g., alternative uses of the range of skills and knowledge possessed by the employee), and at the same time having the ability to constantly learn, acquire new skills and knowledge, and quickly be redeployed in response to change (Bhattacharya et al., 2005; Beltrán-Martín and Roca-Puig, 2013; Camps et al., 2015; Way et al., 2015, 2017).

The difference between skills and behavioral flexibility is that employees might be motivated to behave flexibly but do not have relevant skills and knowledge to actually display this behavior and handle challenging situations (Beltrán-Martín and Roca-Puig, 2013; Úbeda-García et al., 2016). Therefore, employee skill flexibility is considered as antecedent of employee behavioral flexibility, due to the employees' confidence in their competencies, and ability to master their jobs beyond the prescribed job description (Beltrán-Martín and Roca-Puig, 2013). Nevertheless, developing the employees' wide range of skills constitute the employee's flexibility (Camps et al., 2015). A flexible employee demonstrates a capacity to work on diverse tasks and under diverse conditions, at minimum cost and short time required to mobilize this employee to execute new roles (Camps et al., 2016; De Lastra et al., 2014). ESF is also associated with the employees' ability to develop a wide-range of diversified skills, ability to quickly learn new tactics to perform their tasks, and capability to anticipate the skills required in the future (Beltrán-Martín et al., 2013; Bhattacharya et al., 2005; Chang et al., 2013). Moreover, ESF is demonstrated when the employees are able to foresee the demands of

changing environment and the skills need to fulfill these demands, utilize their skills repertoire and quickly find efficient alternative solutions to face change (Way et al., 2018). Therefore, ESF encompasses not only the 'can do' ability but also the 'will do' interest in utilizing the wide range of skills to handle new or challenging job tasks/demands (Úbeda-García et al., 2017).

Way et al. (2015) elaborated by giving an example that if an organization's customers' need a new service or have specific requirement that is not currently provided by the organization, employee skill flexibility is demonstrated when the current employees possess the necessary skills or can quickly acquire them to perform new activities unfamiliar to them, and efficiently and rapidly fulfill the customer unexpected and changing requirements. So, we see the two essential factors in ESF in this example; the possession of a wide range of skills and the rapidity to utilize them to fulfill new job demands or seize opportunities in the business. Moreover, demonstrating discretionary behavior by not sticking to the job description or the traditional services provided by the organization, the willingness to utilize the repertoire of skills, the proactive and adaptive behavior shown in this situation to perform new and different job activities to handle situation-specific demands also demonstrate flexibility in the employees' behavior. Accordingly, organizations can simply expand the array of services they offer to their customers relying on the employees' flexibility (Way et al., 2015, 2017).

An organization can develop employee skill flexibility through embracing the HR practices that covered earlier, which promote employees' flexibility and constantly generate up-to-date wide range of knowledge and skills essential for their ability to adapt to new roles or new work contexts resulting from constant alignment with the change due to environment dynamism (Way et al., 2015). When employees are well equipped with the necessary KSA and provided the opportunities to freely utilize the job resources, motivated and empowered to

perform in discretionary way, they will heighten their confidence to engage in new work roles, efficiently realize the job demands and behavioural flexibility (Tuan 2016; Luu, 2019).

### **Employee Behavior flexibility (EBF)**

EBF denotes the ability and willingness of the employees to adjust and adapt their behavior to new or challenging circumstances that are unusual or unfamiliar to them (Wright and Snell, 1998; Beltrán-Martín et al., 2008; Luu, 2019; Way et al., 2015). Employees with flexible behaviors handle new situation/events/job tasks by not following the traditional routine and scripts that they used to follow in their daily job duties. On the contrary, employees rely on their behavioral repertoire and perform according to the new situation-specific demands (Úbeda-García et al., 2016,2017). In other words, it is the extent to which employees possess a wide range of behavioral scripts in their repertoire by which they can improvise new scripts and adapt them to situation-specific demands that contradict the routine conduct, rather than following standard procedures/routine that might not be suitable and will not resolve new unpredictable situations (Bhattacharya et al., 2005; Chang et al., 2013; Dyer and Ericksen, 2006; Tuan, 2016).

Nonetheless, employees' willingness and empowerment are imperative factors to reinforce behavioral flexibility because employees might possess ample skills and behaviors but not willing to generate new nonroutine scripts to handle new situations or new job demands (Beltrán-Martín and Roca-Puig, 2013; Úbeda-García et al., 2016). Employees are empowered when they work on meaningful tasks, where they can leave valuable effect, at the same time when they possess competencies and attain their self-efficacy through their belief that they are capable of effectively accomplishing their job demands while having the autonomy to lead by their own discretion (Beltrán-Martín and Roca-Puig, 2013; Charbonnier-Voirin et al., 2010).

Employees who lack the motivation to utilize their repertoire of behaviors and choose to stick to their consistent behavior will hinder the organizational overall flexibility will fail to fulfill the new job demands (Way et al., 2017). Hence, demonstrating flexibility in handling complex and challenging situations fosters the organizational ability to respond to unpredictable fast paced changes in the customers' or business environment's demands (Bhattacharya et al., 2005; Way et al., 2015, 2017; Wright and Snell 1998). Consequently, EBF does not only comprise of a wide range of behavioral repertoire possessed by the employees, but also their motivation to improvise and proactively display adaptive behavior to handle situations out of their acquainted routine (Luu, 2019; Úbeda-García et al., 2017).

Nevertheless, behavior becomes inflexible when employees continue to follow a series of activities/actions in recurring situations and follow the same series of actions to handle new challenging situations (Beltrán-Martín and Roca-Puig, 2013; Úbeda-García et al., 2016). Consequently, proactive improvised behavior that is believed to resolve the situation-specific demands is essential to resolve the situation rather than following previously defined actions pattern (Bhattacharya et al, 2005; Úbeda-García et al., 2017; Wright and Snell, 1998). EBF add value to the organization because by successfully handling diverse complex situations and challenging job demands resulted from the change, it saves costs and time derived from the consequences of failure to adapt to change due to employees' rigidity (Úbeda-García et al., 2016, 2017). EBF also accelerates the change implementation and decision making, due to the ability of flexible employees to rapidly create new scripts from the behavioral repertoire, show great tolerance for non-routine job tasks/job demands, adapt responses to the new situations or demands by following new ways/approaches to handle unacquainted situations and propose new and suitable alternative solutions to efficiently and rapidly respond to change (Bhattacharya et al., 2005; Way et al., 2015, 2017). EBF, hence, enables the organization to



effectively respond to diverse new challenging situations and events, and hence fosters the organization's flexibility and competitiveness (Beltrán-Martín and Roca-Puig, 2013; Úbeda-García et al., 2016; Way et al., 2017).

Extant research has illustrated that proactivity, adaptivity, resilience, learning and innovative behaviors distinguish flexible employees (Camps et al., 2015; Preenen et al., 2015; Sherehiy et al., 2014). Flexible employees when confronted with new situations proactively improvise new scripts and follow new approaches to handle unfamiliar situations (Tracey, 2012; Way et al., 2015). They also take initiative by introducing changes to their job tasks, and redesign their jobs and seek new job resources to heighten their ability to realize the new job demands. This proactive behaviour is called job crafting (Luu, 2019; Petrou et al., 2015; Tims et al., 2016). They easily demonstrate tolerance to change by confidently participate in handling new tasks or new job demands and that denotes their resilience ability (Way et al., 2015, 2017). Furthermore, flexible employees show eagerness to learn based on which they can draw to widen their skills and behavioral repertoire and at the same time innovate by proposing alternative strategic solutions or at least innovate in creating non-routine scripts in responding to change and new business requirements (Camps et al., 2015; Preenen et al., 2015; Úbeda-García et al., 2017).

As previously mentioned, HRPF and ESF are essential determinants of EBF (Camps et al., 2015; Úbeda-García et al., 2016, 2017). Working conditions reinforce social support (leaders' and peers' support) stipulated by teamwork-based jobs, knowledge sharing between the workforce, performance management and appraisal that provides constructive feedback and relevant and aligned trainings (Luu, 2019; Way et al., 2017). These initiatives engender support, security and trust among the workforce and promote psychological safety because the team feel

safe in interpersonal risk taking and freely take initiatives, which accordingly generate employees' resilience, learning and innovative work behavior due to autonomy and support (Gong et al., 2012; Liu et al., 2014). Similarly, the job characteristics that provide autonomy, diversified competencies, involvement and self-efficacy, job enrichment and rotation trigger the employees' proactivity and increase their exposure to new duties, tasks and situation, which help develop and widen the employees' behavioral repertoire and strengthen the employees' adaptivity (Chang et al., 2013; Úbeda-García et al., 2017; Way et al., 2018). As such, we can perceive the significant role of HRPF and ESF in developing employees' desirable behaviors that motivate the employees to utilize their wide range of behavioral repertoire to come up with innovative scripts to handle non-routine situations and effectively adapt to new work contexts resulting from the change (Way et al., 2015), rather than following regular operating procedures and routine scripts of behavior that will not tackle novel unfamiliar situations or events (Úbeda-García et al., 2017)

To summarize, HR flexibility is posited as a significant dynamic capability for organizations operating in the context of dynamic and turbulent environments as it constantly develops the organizational overall flexibility (Ketkar and Sett, 2010; Luu, 2019; Teece et al., 2016; Way et al., 2015). HRF is considered by the employees as a resource (Way et al., 2018), based on which they can draw to constantly develop their repertoires of skills and behaviors and motivates them to willingly utilize their competencies in response to change (Tuan, 2016). Consistent with JD-R theory, job resources encompassing personal resources enable employees to handle job demands (Bakker et al., 2014; Grover et al., 2018; Rudolph et al., 2017). HRF comprises of three main constructs: human resources practices flexibility, employee skills flexibility, and employee behaviour flexibility (Bhattacharya et al., 2015; Úbeda-García et al., 2017; Way et al., 2015). HRPF ensures constant alignment and development of the EEF and

the EBF, and at the same time rapidly and efficiently redeploy employees to fit into their new roles that are essential to cope with the change (Úbeda-García et al., 2016, 2017; Way et al., 2018).

### **Work-Life Balance**

Recently, work-life balance (WLB) started to receive more attention from scholars and practitioners as it generates positive outcomes for individuals and organizations (Kossek et al., 2014; Russo et al., 2016). WLB is known to stimulate employees' positive attitude and enhances their self-efficacy while intrinsically stimulate employees' engagement, reduce exhaustion and at work, and foster employees' overall well-being (Niessen et al., 2018; Zheng et al., 2015). WLB is recognized as a distinctive concept and valuable extension to the research on work family interface (Haar et al., 2014). WLB is a comprehensive concept involving apt prioritization and equilibrium between 'work' and 'life'. 'Life' entails different spheres of a person's life, including the family, social, leisure, and spiritual spheres. Thus, the word 'life' is sometimes replaced by the term 'non-work' (Frone, 2003; Kossek et al., 2014). However, despite this difference, 'work-family balance' (WFB) and WLB are sometimes used interchangeably in the literature, although the former's scope is very limited to one sphere of a person's life, mostly on workers with families (Haar, 2013). Certainly, WFB ignores individuals who live independently but still need to fulfill their work and private life goals, efficiently perform in all aspects of their work and life, and need to achieve balance between them (Haar, 2014). In addition, 'work-family' initially evolved to address gender discrimination issue and affirm that childcare did not prevent women from participating in the workplace (Kossek et al., 2011). Consequently, researchers started to broaden their scope from WFB to work-life balance by integrating all aspects of life that surround the employees. Surprisingly,

despite its popularity there is no consent on one definition for WLB and there is still imprecise understanding to the term balance (Greenhaus and Allen, 2011; Wayne et al., 2017).

### ***Definition of WLB***

WLB signifies a melodious interface between diverse life domains and roles individuals play in their work and private life (Keeney et al., 2013). Initially, Guest (2002) defined work as the paid activities (employment) performed in the workplace, while life is everything else outside work. Guest (2002) claimed that balance does not mean equal time between the two domains, but relatively a conventional/constant relationship. Certainly, desired level of equilibrium differs from person to another and vary depending on a person's needs and the job's demand. Thus, other authors described WLB as the satisfaction and appropriate functioning at work and non-work roles with absence of undesirable levels of conflict between the different roles' demands (Clark, 2000; Greenblatt, 2002). Later, Valcour (2007) proposed the achievement of balance in work-life from positive psychology field, and sheds light on the contentment that arise from an individual's ability to successfully meet work and life roles' demands based on one's perception and priorities in life. Specifically, it is the individuals' satisfaction with the balance they actually achieved in their work-life roles in comparison with what they aspire (Syrek et al., 2013; Ulich and Wiese, 2011). Accordingly, scholars conceptualized WLB as a holistic concept that entails all important roles a person play in life, with emphasis on its unique relevance to each person's perception, whereas the balance is attained when individuals succeed in fulfilling their priorities in life, perhaps by spending more or less time on one domain but success and contentment in this specific domain/role fulfill their balance desire, and that might in turn positively influence the other spheres as well (Brough et al., 2014; Haar, 2013; Haar et al., 2019; Kossek et al., 2014). Therefore, WLB is considered as a global assessment of the interaction between work and non-work roles and how adequately they fit together and managed consistently with one's priorities, values, aspirations in life, and

circumstances (Casper et al. 2017; Haar, 2013; Haar et al., 2014, 2019; Wayne et al., 2017). Accordingly, this research adopts the same conceptualization of WLB as a holistic concept depending on individuals' perception of their overall satisfaction with their WLB based on their priorities, values, and circumstances. Now, it is essential to shed light on the determinants of WLB through investigating the individual and contextual factors that promote WLB, particularly in dynamic and changing work environment, because of the roles of WLB in stimulating employees' engagement and protecting them from negative consequence of failure to achieve WLB, such as exhaustion, burnout and depression (Haar, 2013; Haar et al., 2019).

### ***Determinants of WLB***

Drawing on the JD-R model and the comprehension of the perception of work–life fit and balance, the job demands and resources which incorporate the individual and contextual factors that portray the employees' WLB are explored. The notion is built on the fact that each individual encounters demands in their work and life domains. However, if the individual has the capacity or resources to fulfill these demands despite the challenging nature of the demands, then he/she can achieve balance between various domains in his/her life (Bakker and Demerouti, 2014; Schaufeli, 2017). Specifically, several researches associated negatively WLB with diverse job demands while positively correlated WLB with job resources that enable individual to possess the means to fulfill job demands and have control over their work and life domains (Abendroth and den Dulk, 2011; Giaque et al., 2016; Haar et al., 2019; McNamara et al., 2013).

Job demands signify the structural or psychological claims linked with the role requirements which employees must fulfill by constantly exerting physical and psychological efforts (Demerouti and Bakker, 2011; Bakker and Demerouti, 2014). Accordingly, job demands

are interrelated with psychological and physiological costs and act as sources of job stressors, which may lead to negative consequences such as job strain, exhaustion, withdrawal and disengagement psychologically from work, and burnout if not properly tamed (Bakker et al., 2008, 2014; Demerouti and Bakker, 2011). Job demands necessitate considerable energy and skills, include psychological and physiological costs that trigger exhaustion and burnout. Additionally, those demands can be arduous that engendered through greater workload and tiring tasks that hinder accomplishing the organizational objectives (Tadić et al., 2015; Van den Broeck et al., 2010). Great emphasis on fulfilling work tasks interfere with private life obligations, and create great pressure and stress due to the inability to adeptly handle job demands (Tadić et al., 2015). Therefore, job demands could deplete employees' energy and become a hindrance toward achieving the balance between work and life due to lack of substantial resources needed to equip employees with all the indispensable gears required to handle the job demands (Sonnentag et al., 2012).

Astonishingly, job demands do not lead to negative consequences all the time. Job demands stimulate employees' growth and development, and drive employees to utilize their cognitive abilities, skills and knowledge to succeed in accomplishing the job demands, which in this case is considered as 'good' job stressors (Bakker and Demerouti, 2017; Crawford et al., 2010; Valcour, 2007). Consequently, challenging job demands encountered by the employees at work actually foster job resources implication and reinforce the influence of job resources in motivating employees to achieve the job requirements (Sonntag et al., 2012). Success in competently fulfilling the job demands while learning and acquiring new skills, knowledge and abilities could meet an individual's perception of balance and fit between work and non-work life especially when they match their priorities, values and aspiration in life (Greenhaus and Kossek, 2014; Haar et al, 2019; Niessen et al., 2018). As fit is expected to ensue when an

individual has the resources required to face the demands of their environment, stress and negative ramification are likely to occur when demands surpass the available resources (Haar et al., 2019).

Generally, extant research asserted that work load, time pressure, changing tasks and job complexity are considered as job stressors that lead to negative consequences such as exhaustion, depression and burnout (Haar, 2013; Haar et al., 2019; Nikolova et al., 2014; Sonnentag et al., 2012; Xanthopoulou et al., 2007). Furthermore, in times of organizational change, job demands increase and change as well; hence, requires new routines, behaviors and skills, which augment work pressure and emotional demands (Lee et al., 2015; Nikolova et al., 2014). Nevertheless, in other contexts when the job resources provided at the workplace are pertinent and sufficient, employees will be able to have control over their jobs, benefit from the personal development instilled from handling job demands and eventually achieve their desired WLB (Haar et al., 2019; Niessen et al., 2018). Thereby, these same job demands become a trigger for positive outcomes instead of leading to undesirable repercussion (Crawford et al. 2010; Drenzo et al., 2015).

In contrast, job resources are described as psychological, physical, social and organizational characteristics of the work setting that diminish the detrimental health effect of job demands, facilitate role functioning, support in accomplishing work objectives, and foster personal progress, learning and development and engendering further resources (Demerouti et al. 2001; Bakker and Demerouti, 2014). Job resources are considered as a motivational process that leads to work engagement, eradicate job stressors, promote adaptive behavior, and act a buffer against energy depletion due to job demands (Demerouti and Bakker, 2011; Sonnentag et al., 2012; Ten Brummelhuis and Bakker, 2012). Job resources are those job elements that

enable employees to accomplish their job goals, buffer the detrimental effect of the job stressors and motivate personal growth. In fact, there are two types of resources; first, contextual factors which are relevant mainly to organizational practices and work characteristics and second, individual factors which could be either inherited by individuals, or engendered and ameliorated within the work context (Wood et al., 2018; Xanthopoulou et al., 2007).

Contextual factors include job resources that positive influence WLB by assisting employees to boost core self-concept and to accomplish their job roles and attain goals (Bakker and Demerouti, 2016). For instance, job characteristics that entail job autonomy and control allow job crafting where employees can proactively adjust their tasks, cognitions and relationships to optimize their job demands and resources themselves, pursue challenges, and improve their job in a way that allow them to achieve their organizational and personal objectives (Demerouti and Peeters, 2018; Oprea et al., 2019). Job crafting provides an opportunity to increase job resources, such as skill variety, development opportunity and reinforce social support including manager, peers and organizational overall support (Tims et al., 2012; Van Wingerden et al., 2017). Nevertheless, social support can stipulate access to precious resources; for example, sympathy, assistance, constructive feedback and information sharing, beneficial resources on a personal and professional level that foster the employee's ability to handle work and non-work challenges. Specifically, employees feel safe due to social support to exhibit proactive behavior and craft their jobs in a way that lead to WLB (Kossek et al. 2014; Talukder et al., 2016). Moreover, social support can be demonstrated through the flexibility offered by the manager to the employees so that they can control their scheduling, the freedom to introduce changes in their jobs to optimize job resources, and enable employees to balance their work and non-work domains (Baptiste, 2007; Russo et al. 2016; Haar et al., 2019). Additionally, HR practices that reinforce employees' involvement in work planning and



instil employees' adaptive behavior, task restructuring and provide training and development will heighten employees' ability to cope and manage job demands in a way that bring balance in their lives (Bakker and Demerouti, 2018; Bakker and de Vries, 2021).

According to JD-R theory, job resources also include personal resources based on which employees properly seize and make use of available job resources and efficiently handle job demands. Personal resources are associated with resilience and indicate the individuals' understanding of their ability to control and have an effect on their work and personal life successfully (Xanthopoulou et al., 2009). Psychological capital (PsyCap) is considered as a personal resource because it determines the extent to which individuals believe they can control and affect their work and personal life by taking initiatives and making a valuable change (Grover et al., 2018). Hence, PsyCap denotes the individuals' positive psychological state of development that is portrayed by the employee's confidence to employ the needed effort to successfully accomplish challenging tasks (self-efficacy), making a positive ascription about success currently and in the future (optimism), showing perseverance towards attaining goals and, when required, introduce changes in the pathway to attain goals (hope), ability to tolerate life adversities and ability to bounce back to achieve success (resilience) (Luthans et al., 2007). Therefore, PsyCap participates in maintaining stable mental health that generally strengthen employees' abilities and at the same time improves working environment because employees with prominent PsyCap are able to focus more on attaining their goals and usually demonstrate positive attitudes towards their work and personal life (Paterson et al., 2014). Therefore, individuals with PsyCap are more likely to exhibit proactive, adaptive and resilient behaviors towards life challenges/job demands and in turn eliminate the negative influence of job stressors/demands and lead to positive outcomes such as job satisfaction, work happiness, job

performance and organizational commitment (Luthans et al., 2010; Youssef and Luthans, 2007; Schaufeli and Taris, 2014).

The JD-R model helps to examine the effect of job demands in agile context where the employees are expected to rapidly and efficiently respond to constant changing job demands, as they reinforce the organizational agility capabilities (e.g., sensing, seizing, and reconfiguring), and their role in proposing alternative solutions that enable the organization to cope with customer/business changing demands. All these job demands also entail individual factors where the employees are supposed to be competent, possess the necessary skills and behaviors that allow them to demonstrate proactive, adaptive and resilient behavior essential to endure such dynamic business environment. Nevertheless, the model examines whether the resources at the employees' disposal (e.g., organizational support and personal resources) are sufficient for mastering and controlling their jobs or not. Specifically, job resources intended to motivate personal growth, learning, and development equip employees with the essential means to handle challenges and face stressors associated with job demands (Bakker and Demerouti, 2014; Van den Broeck et al., 2008). Consequently, job demands will not overlap with other domains in employees' life and henceforth they can attain their aspired balance, and diminish the health impairing effect of job demands (Haar, 2013; Haar et al., 2019; Schaufeli, 2017).

According to Haar et al. (2019), people tend to experience low WLB and high strain when they experience a misfit between job demands or social environment, and the resources available to fulfill these demands. Similarly, Ten Brummelhuis and Bakker (2012) emphasized the significance of individual and contextual resources in promoting WLB, as they can be utilized to tackle challenging demands/role requirements and attaining satisfactory outcomes.

However, if the job demands exceed the resources at the employees' disposal to fulfill their job requirements, this will negatively affect employees' capacity to attain WLB (Voydanoff 2005; Haar et al, 2019). Nevertheless, the availability of apt resources permits the employees to handle role demands irrespective of whether the demands are challenging or not. This shows that challenging or highly demanding jobs have no adverse influence on WLB as long as job resources at the employees' disposal are sufficient to fulfill these demands (Bakker and Demerouti, 2017; Ten Brummelhuis and Bakker, 2012). Conversely, employees attained high WLB when both demands and resources were high because active jobs or lives could be balanced when individuals have the essential resources that reinforce their adaptable capacities (Haar et al., 2019; Niessen et al., 2017; Ten Brummelhuis and Bakker, 2012).

Examples of job contextual resources foster the employee abilities to attain WLB and fulfill role requirements, are for instance leader support/social support, job autonomy, flexibility and access to resources which affirmed as substantial contextual resources that have significant positive effect on WLB (Haar et al., 2019; ten Brummelhuis and Bakker, 2012). Job autonomy, for instance, enables employees to have control over their work and freely decide on 'how' work should be done and 'when' by controlling work scheduling according to their convenience, without the need for external monitoring from the supervisor. Hence, job autonomy helps employees realize their desired level of WLB, accomplish their work and non-work requirements more efficiently and at their convenience, which also reduce the level of stress attached to their work-life demands (Vera et al., 2016). At the same time, the leader is supposed to facilitate employees' access to essential resources, ensure constant development of employees' competencies and provide constructive feedback to boost their ability to competently accomplish job demands. Moreover, the leader is expected to show care for the employees' well-being and recognize their valuable participation at work (Greenhaus et al.,

2012; Russo et al., 2016). In turn, this care cultivates the employees' experience at work, equip them with varied competencies which could improve their capacity to handle different roles in their life and prudently utilize individual and contextual resource at their disposal to fulfill demands of different domains in life and attain the balance (Haar et al., 2019; ten Brummelhuis and Bakker, 2012).

### ***Significance of WLB***

The significance of WLB stems from its contributions in engendering positive outcomes for individuals and organizations (Haar et al., 2013; Kossek et al. 2014). Although, it was initially and mainly delineated as an individual responsibility to be achieved, contextual factors were in some ways ignored. Until recently, WLB is identified as a social construct that is portrayed by individual factors together with contextual factors (Greenhaus and Allen, 2011; Haar et al., 2019; ten Brummelhuis and Bakker, 2012). Other scholars identified individual and contextual factors that contribute in developing and promoting employees' WLB, in addition to determining the consequences of attaining low or high WLB (Haar et al., 2014, 2019). Particularly, extant research explicated that low WLB is associated with a number of undesirable consequences; for example, burnout, exhaustion, and low life/job satisfaction (e.g., Carvalho and Chambel, 2014; Greenhaus et al., 2003; Haar, 2013; Lunau et al., 2014). Nevertheless, achieving high WLB has a positive effect on one's life/job satisfaction and employee well-being (Emre and De Spiegeleare, 2019; Haar, 2013; Moloney et al., 2017; Russo et al., 2016; Wagner et al., 2014; Zheng et al., 2015). This is because WLB is considered as a resource that buffers the negative effect of job stressors and protects employees from the detrimental consequences of excessive demands due to the employees' ability to optimize job resources and seize the flexibility, autonomy and social support provided at the work environment in addition to capitalizing on their personal resources to manage their environment

with discretion, and achieve the aspired balance based on their priorities in life (Bakker and Demerouti, 2017; Haar, 2013; Haar et al., 2019).

### **Employee Well-Being**

Now as illustrated earlier about working environment in agile organizations, unpredictability and rapidity of the change have become the new nature of the workplace, which made it imperative for employees to deal with these changes as part of their job demands (Teece et al., 2016). Precisely, since employees play significant role in enabling organizational agility, their ability to handle job demands associated to the development of organizational agility capabilities is an inevitable verity (Qin and Nembhard, 2015). These demands entail frequent, rapid and unforeseen changing tasks, handling new responsibilities, constant need for acquiring new diverse competencies, time pressure because response time factor is crucial in agile environment, besides emotional demands as employees are always required to be cooperative, proactive and adaptive to change. In sum, job demands in agile organization need to be rapidly and efficiently addressed by employees to ensure organizational ability to sense and respond to change (Felipe et al., 2019).

Consequently, in a VUCA working conditions, maintaining employee well-being in the workplace is crucial not only for the employees' health but also for the organization, because extant research show that poor employee well-being leads to unfavorable consequences to the business (Crawford et al., 2010; Nikolova et al., 2014). On the other hand, there are evidences in the literature associating employee well-being with positive organizational results, such as productivity and performance (Nielsen et al., 2017; Robertson, Birch, and Cooper, 2012; Zheng et al., 2015). However, there are several studies linking poor well-being and mental health problems with organizational change, resulting in changes at the work place and changing work

structure, tasks and responsibilities (Huo and Boxall, 2018; Oreg et al., 2011). Consequently, it is crucial for agile organizations to healthy employees who are performing efficiently because the change in agile organization is more rapid, frequent and unpredictable than in stable business environment, which result in intensified changing job demands (Sherehiy and Karwowski, 2014).

Employees play a significant role in fostering the organizational capabilities to sense and respond to change. However, the changes resulting from organizational agility lead to frequent and constant change in the job characteristics (Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). The JD-R model elucidates to what extent job characteristics can have a considerable effect on employees' well-being and attitudes at the workplace; for example, job strain, cynicism, burnout, exhaustion, and work engagement (Bakker and Demerouti, 2017; Halbesleben, 2010). The notion that changes in job characteristics influence employee well-being is not recent. According to JD-R, job characteristics are outlined and classified into two categories: job demands and job resources. Job demands as illustrated earlier are features of the job that compel effort, which is why it is also known as health impairment process as they are linked with certain psychological physiological costs. Job resources denote features of the job that are functional in attaining work goals and foster personal growth. Thus, they can be utilized to diminish the effect of job demands and the related costs. For that reason, job resources are also identified as motivational process (Bakker and Demerouti, 2007; Bakker et al., 2014; Sonnentag et al., 2012).

To properly understand how job demands and resources have an impact on employees' well-being, we firstly need to understand what does employee well-being mean and what are the constructs of employee well-being? According to Danna and Griffin (1999), employee

well-being is considered the state of a person's physical, mental and overall health, together with their satisfaction in their overall life (work and non-work). In this perspective, employee well-being is affected by the employees' happiness or unhappiness at work, at the same time the ability to attain the balance aspired between all aspects of his/her life (Nielsen et al., 2017). Remarkably, previous research found that workplace resources are associated with and have an effect on non-work-related well-being (Kinnunen et al., 2011; Nielsen et al., 2017). Moreover, Bakker and Demerouti (2007, 2017) stated that employee well-being is the outcome of two comparatively independent processes. The first process includes the health impairment process, which illustrate that if jobs are poorly designed and job demands that are chronic will exhaust employees' physical and mental resources, which in turn could deplete the employees' mental energy (i.e., exhaustion/burnout) and finally lead to health problems. The second process includes the job resources that employ motivational prospective, resulting in positive affecting state (work engagement). Based on JD-R model, work engagement and exhaustion are considered as indicators of employee well-being (Huo and Boxall, 2018; Schaufeli and Taris, 2014).

### ***Work Engagement***

Work engagement is defined as “a positive, fulfilling, work- related state of mind that is characterized by vigor, dedication and absorption” (Schaufeli et al., 2002, p. 74). Vigor signifies the mental resilience and elevated levels of energy whilst working. Dedication is concerned with how employees are forcefully involved in their work and feel a sense of enthusiasm, significance, and challenge. Absorption is demonstrated by the employees' full concentration and being contentedly occupied in their work, while time passes fast and they have difficulty with detaching themselves from work (Schaufeli et al., 2002). Research reveals

that engaged employees are more expected to be excited and endow energy into their work, which consequently may lead to greater levels of performance (Christian et al., 2011). Engaged employees find work as challenging, stimulating but also enjoyable instead of arduous and stressful (Bakker and Demerouti, 2018).

### ***Exhaustion***

Exhaustion is defined as work-related tiredness resulting from elongated exposure to certain job demands that consume physical or mental effort, which in turn lead to physiological and psychological costs (e.g., exhaustion). It is the feeling of being emotionally strained and depleted of emotional resources (Maslach et al., 2001). Job demands commonly trigger work stressors and are considered as predictors of exhaustion because usually job demands entail efforts and efficacy that deplete resources. Exhaustion is engendered by excessive job demands and scarce resources, whereas exhaustion impedes employees from achieving their job demands and realizing performance expectations. It is mainly seen as an initiator of poor health (e.g., sickness absence, reduced work ability), poor performance, low organizational commitment and low job satisfaction (Emre and De Spiegeleare, 2019; Ferne et al., 2012). These negative outcomes specifically occur when demands are unceasingly high and are not balanced by job resources. As a result, there is a depletion of employees' energy as failure to attain the aspired work-life balance leads to exhaustion and depression (Haar, 2013; Schaufeli, 2017).

### **Summary**

This chapter covers the literature review and provides an explanation of the diverse endeavours to define the main concepts and variables adopted in this study. Primarily the chapter starts with an introduction about organizational agility, followed by a description of the



concept and how it started, the main constructs of organizational agility, then an explanation of the characteristics of agile organizations and the practices that participate in developing the organizational agility capabilities, incorporating the role of workforce as a principal enabler of organizational agility and the main characteristics of the workforce in agile organizations. Moreover, an explanation is provided on how organizations develop the workforce agility to continuously ensure fostering the organizational agility capabilities. Secondly, the chapter covers human resources flexibility and its essential role in developing the employee flexibility (incorporating employee skills and behavior flexibility) through aligning the human resources practices with any strategic changes. Within the organization and at the same time motivates employees to proactively handle change and adapt flexibility to it. Thirdly, this chapter accentuates the pertinent role of work-life balance in maintaining adequate employee well-being, whilst highlighting the determinants, antecedents and the consequences of overlooking employee work-life balance and well-being. The chapter also covers the practices that participate in developing the employee work life balance and employee well-being.

### **Chapter 3: Hypotheses Development and Conceptual Framework**

This chapter presents an overview of organizational agility and human resources flexibility in relation to employee work-life balance and employee well-being within a dynamic agile context. The links between the variables based on dynamic capability theory and JD-R model are examined. Four pairs of relationships are investigated: OA-WLB, OA-WLB-EWB, HRF-WLB, and HFR-WLB-EWB, in addition to considering the effect of the control variables

in this study model. However, to date, there is no previous work that covered the relationships between the four variables and the work life balance or the employee well-being in an agile context. Instead, this study relied on the theory and previous studies that examined the effect of the main determinants, antecedents or practices that contribute to organizational agility capabilities in order to demonstrate the reasoning to examine the link between the variables. The chapter covers the presentation of the conceptual framework, research questions, hypotheses developments, and concludes with a summary.

### **Research Overview**

As elaborated in chapter two, agility is an imperative dynamic capability recognized as fundamental for organizational ability to compete and thrive in the volatility, uncertainty, complex and ambiguity nature of the business environment because it enables organizations to sense and respond to unpredictable rapid environmental changes (Felipe et al., 2019; Teece et al., 2016). As a consequence of adopting strategic agility, organizational practices including HR practices need to adapt and change in order to cope and align the organization with the agility strategy and participate in developing the organizational agility capabilities (sensing, seizing and reconfiguring) to rapidly and efficiently sense and respond to change in dynamic and turbulent business environment (Nijssen and Paauwe, 2012; Way et al., 2015). It is essential to highlight that rapidity and efficiency are core elements of organizational agility capabilities because organizations operating in VUCA world cannot afford sluggish or inefficient response to disruptions and fast paced changes in their business environment if they aspire to remain in the business and maintain competitive advantage (Park et al., 2017; Wilden et al., 2013).

However, based on extant research in the strategic agility and organizational agility field, employees play a very crucial and significant role in developing organizational agility capabilities (Sherehiy and Karwowski, 2014). Interestingly, their significance is evident that an organization cannot be agile without its agile workforce and the development of agile capabilities are the key factors that enable the workforce to develop organizational agility capabilities and at the same time ensure its sustainability (Charbonnier-Voirin, 2011; Dyer and Ericksen, 2006; Park et al., 2017; Qin and Nembhard, 2015; Teece et al., 2016; Sherehiy and Karwowski, 2014).

It follows that there needs to be research to understand and to find out how sensing, seizing and reconfiguring capabilities of the organization affect the workforce perceptions and behaviors within the agile context especially they are one of the main catalysts for agility. At the same time, there needs to be an exploration of the organizational practices, including the HR practices adopted by the organization to develop and realize the sensing, seizing and reconfiguring capabilities while at the same time explore how they affect the workforce. Specifically, HR in an agile context should be flexible as the HR flexibility is a dynamic capability that provides the organization with the key tools and mechanisms to enhance the organizational ability to sense and respond to environmental change. HRF plays a key role in developing the employees and HR practices flexibility to constantly contribute and align with strategic agility (Úbeda-García et al., 2016; Way et al., 2017).

Subsequently, after a thorough exploration of organizational agility research and how agile organizations operate in a way to maintain competitive advantage and ensure sustainability in a dynamic business environment, we developed our research questions which are based on our sincere curiosity about the employees' well-being and work life balance while

working in such fast paced and demanding working environment. Also, this study examined whether agile organizations compromised their employee's well-being and work life balance due to the urgent need to respond to the constantly changing environment really fast and efficiently. We also wanted to see if the rapidly changing unpredictable nature of this working environment has an effect on the employee's well-being and work life balance and at the same time if HR flexibility plays role in maintaining not only competent workforce but also maintain their wellbeing? There is still a dearth of research exploring employees' well-being and work life balance in agile organizations in a dynamic and turbulent business environment. In addition, the organizational practices in agile organization differ from traditional organizations operating in stable business environment, which is an essential factor that should not be ignored.

### **Research Questions**

Based on the literature review, the following research questions are used to guide this research:

1. What is the influence of the organizational agility on employee work-life balance?
2. What is the influence of the organizational agility on employee well-being?
3. What is the function of the employee work-life balance in the relation between organizational agility and employee well-being?
4. Does organizational agility predict work-life balance, which in turn predicts employee well-being?
5. What is the influence of the HR flexibility on employee's work-life balance?
6. What is the influence of the HR flexibility on employee's well-being?
7. What is the function of the employee work-life balance in the relation between HR flexibility and employee well-being?

8. Does HR flexibility predict work-life balance, which in turn predicts employee well-being?
- 9.

## **Hypothesis Development**

### ***OA - WLB - EWB***

Extant research has illustrated that workforce that contribute to enabling organizational agility are primarily agile workforce, as they act as one of the main and essential enablers of organizational agility (Charbonnier-Vorin, 2011; Sherehiy and Karwowski, 2014). The fundamental characteristics and desired behaviors of agile workforce, which qualify them to play their roles as enablers of organizational agility, are their proactivity, adaptability and resilience (Dyer and Shafer, 2003; Griffin and Hesketh, 2003; Qin and Nembhard, 2015; Sherehiy et al., 2007). These behaviors, when actually displayed at work, give an indication that the workforce possess positive psychological capital (e.g., hope, efficacy, resilience, and optimism) (Avey et al., 2009; Caniëls and Baaten, 2019; Luthans, 2012), which is evidenced when workforce plays their expected roles in rapidly and efficiently sense and respond to change, handle diverse tasks and responsibilities and fulfill constant changing job demands while showing tolerance to ambiguity due to the uncertainty and unpredictability nature of the working conditions (Nijssen and Paauwe, 2012; Parker et al., 2019). Moreover, agile workforce possesses diverse knowledge, skills and abilities which give them confidence that they can easily master their work (Luu, 2019; Úbeda-García et al., 2017).

However, due to the dynamism of the business environment that required the organization to be agile, selecting and acquiring agile workforce is not enough to generate agility capabilities of the organization. Drawing on the dynamic capabilities' theory, if

organizations aspire to sustain in dynamic or turbulent business environment, then they need to constantly adapt and renovate their resources (including workforce) and capabilities to effectively sense the change before it happens, seize opportunities and dodge threats by making right decisions while reviewing, aligning and reconfiguring the internal resources in response to their environmental change; consequently maintain a competitive advantage in the long term (Teece, 2007; Teece et al., 2016). Moreover, extant research based on the JD-R model affirmed that individuals' proactivity, adaptability and resilience are considered as personal resources that could be depleted if the job demands are excessive and exceed the capacity of the workforce and the resources at their disposal (see Bakker and Demerouti 2014; Emre and De Spiegeleare, 2019; Schaufeli and Taris, 2014; Schaufeli, 2017). Nevertheless, proactive behavior, adaptive behavior and resilience are relatively malleable resources and are open to development (Avey et al., 2009; Fisher et al., 2018; Kossek and Perrigino, 2016; Kuntz et al., 2011; Xanthopoulou et al., 2009).

Therefore, it is now essential to explore the organizational practices and organizational resources that are provided by the agile organizations to their employees to fulfill job demands, and participate in developing the organizational agility capabilities. At the same time, Nielsen et al. (2010: p.235) explained that organizational practices and resources that foster employee well-being as "inherent in the way work is organized, designed, and managed". While the development of sensing, seizing and reconfiguring capabilities of the organization result in changing job design, generating diverse and new tasks, rapid redeployment between diverse roles within the organization, joining new teams, and necessitate rapid handling to changing job demands (rapidity entails time factor) (Charbonnier-Voirin, 2011; Felipe et al., 2016; Teece et al., 2016, 2017), it is essential to verify whether the resources provided to develop these

capabilities and handle the associated job demands will also predict work life balance and employee well-being or not.

Examining the OA-WLB- EWB relationship building on the JD-R model:

Sensing capability development, as stated by Dyer and Shafer (2003: p.13), is a “people embodied competency”. This capability demands workforce proactivity in detecting opportunities or threats in the business environment, which necessitate knowledgeable workforce capable to explore the external and internal environment, form robust network and relationships within the ecosystem (internally and externally) and capture valuable and updated information, rapidly transmit information and share knowledge internally for exploitation while apprehending, discerning and making sense of the data captured and quickly reacting to it (Alavi et al., 2014; Felipe et al., 2019; Fink and Neumann, 2007; Lee et al., 2015; Teece et al., 2017), Undoubtedly, this process is an ongoing process to constantly capture updated information that ensure constant organizational alignment and development in order to heighten the organizational sensing capability (Sherehiy and Karwowski, 2014; Park et al., 2017).

Seizing capability development demands competent workforce who are capable to make rapid and efficient decisions after reflecting on the information captured, learned and shared to seize opportunities or alleviate threats in the business environment (Helfat and Peteraf, 2015). It denotes the organization’s response to market/customer/internal needs in order to elevate the organizational value and fosters its seizing capability (Teece et al., 2016). At this stage, the organization might need to revise its positioning and strategies, make decisions regarding internal reorganization, introducing new processes and approaches, which in turn would result in changes in the work organization, resource reallocation and might necessitate acquiring new

skills and abilities, or handling new tasks and responsibilities or handling work activities differently than the old traditional routine way (Park et al., 2017; Sherehiy and Karwowski, 2014). Therefore, this stage requires flexible workforce at all levels, who are able to provide diverse alternative solutions and making rapid accurate decision without hesitation (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014).

Reconfiguring capability development demands deploying the actions resulting from the decisions made in the seizing phase to respond to change. This usually entails changes in resources, process, strategies and routines to fit and be aligned with the new directions. Accordingly, changes are expected in organizations, jobs redesign, new tasks and activities, encountering new demands from the customer that necessitate new approach to handle situation-specific demand (Teece et al., 2016). This stage requires great adaptability and resilience from the workforce to handle all these changes (Park et al., 2017; Qin and Nembhard, 2015).

In response to all these business requirements and to maintain the organizational capabilities to sense and respond to change, agile organizations' practices revolve around fostering the organizational learning (exploration and exploitation), knowledge sharing and processing, networking and collaboration, heightening workforce skills, knowledge and abilities while motivating workforce to display proactive, adaptive and resilience behaviors to amplify the workforce flexibility and efficiency in sensing and responding to change (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014; Teece et al., 2016). All these require providing adequate resources to equip workforce with necessary job resources to enable them fulfill the job demands, bearing in mind that time factor is considered because the



organization need to help workforce react fast (provide relevant resources to the time factor) or else they will not be able to cope with fast paced changing demands.

Therefore, the job demands generated from the sensing, seizing and reconfiguring capabilities and inherited in organizational agility are for instance: rapid and unpredictable changing job tasks, time pressure, changing roles and responsibilities, fast redeployment from team to another and work load in general coupled with ambiguity and complexity due to novelty of the requirements and their unpredictability. Commonly, these demands are associated with low WLB and positively associated with exhaustion while negatively associated with work engagement. However, ter Hoeven and van Zoonen (2015) highlighted the paradox effect of flexible work designs (FWD) on employee well-being. They explained that paradox effect occurs when the variables are associated with positive and negative effects of the independent variable. This happens by reflecting the predictor's advantages and challenges exemplified in the relationship. Moreover, in the JD-R model research, recently the model considered two types of job demands, either challenging or hindrance demands. Whereas, the challenging demands are demands that still require physical and psychological efforts but are challenging to the extent employees willingly choose to exert efforts because they stimulate personal growth and are associated with a sense of achievement for the employees (Bakker and Demerouti, 2017; Crawford et al. 2010; Podsakoff et al., 2017). Consequently, job demands inherited in organizational agility capabilities do not necessarily have negative effects on WLB or lead to exhaustion. On the contrary, they could be considered as recompensing work experience and instead stimulate work engagement while reducing exhaustion effect due to efforts exerted to accomplish the job demands.

As for the job resources provided by agile organizations (contextual and personal) to constantly develop their organizational agility capabilities, the resources provided to serve the organizational interests are addressed to develop the employees' abilities, motivate them to willingly utilize their KSAs to attain job demands; henceforth, provide opportunities to contribute to the company. The first step is developing the employees' KSAs by reinforcing the acquisition of diversified skills and knowledge. Hence, work is organized in a way that promote constant learning and development, that is through embedding the exploration and exploitation processes in the job design, which in turn give an opportunity to explore external and internal environment, learn new knowledge by exploration that make use of the knowledge acquired by exploitation (Sherehiy and Karwowski, 2014). Accordingly, employees constantly inject the organization with novel ideas or introduce modifications or adjustments in the current systems to align them with changes in the external environment. Moreover, learning is usually reinforced through diverse channels and methods, directly through training and development, in addition to networking, collaboration and knowledge sharing. Work also is designed to promote teamworking and collaboration. The relationship between team members is fortified through knowledge sharing, which not only intensifies the learning experience but also builds trust and fosters social support among the workforce. Additionally, relying on job enrichment and job rotation is a way for KSA development, especially through acquiring diversified KSA (Charbonnier-Voirin, 2011; Qin and Nembhard, 2015).

Similarly, employee personal resources (such as proactive personality, coping ability and PsyCap incorporating resilience) are vital resources by which employees can have the confidence to utilize and demand the necessary job resources to fulfill their job demands. Nevertheless, based on extant research on organizational agility, leadership play a significant role in fostering the sensing, seizing and reconfiguring abilities of the organization by providing

the essential support to the employees, encourage them to utilize their personal resources at work, facilitate access to job resources, reinforce constant workforce growth and development, and provide autonomy and self-direction opportunity to the employees to manage with discretion and make fast decisions, especially when coupled with trust in their abilities (KSA) (Charbonnier-Vorin, 2011; Ebrahim et al., 2018; Eshlaghy et al., 2009). Therefore, leaders are stimulating the employees' proactive and adaptive behavior in order to boost the employees' flexibility and adaptability in response to change. The most covered type of leadership in the strategic agility literature is mainly transformational leadership, followed by authentic leadership, empowering leadership and servant leadership. Whatever the leadership style is, they play a major role in agile organization by providing support, developing employees' KSAs, endowing access to resources, providing autonomy and control over work so that they can decide how to manage their work and ask for resources and support. Furthermore, leaders provide constructive feedback on performance and motivate employees' involvement and participation. Agile organizations also develop leadership in workforce in order to foster the leadership spirit within the employees (Eshlaghy et al., 2009; Nijssen and Paauwe, 2012; Worley and Lawler, 2010).

Moreover, leaders play essential role in establishing psychological safety among workforce to give them the courage to take interpersonal risks without fear of the blame or to be judged. Leaders also reinforce teamwork and collaboration, that in turn stimulate social support and accelerate knowledge sharing based on which employees can make rapid and efficient decisions to rapidly seize opportunities of positive return to the organization or dodge any threats that may hinder the organizational growth. Besides, the reconfiguring capability entails applying these changes resulting from the decision made in the seizing phase. Therefore, employees' high flexibility is required to rapidly redeploy and implement the new changes,

which necessitate the freedom for employees to recraft their jobs in the way they see suitable to boost their ability to respond to changes (Robertson et al., 2015; Sherehiy and Karwowski, 2014).

Consequently, all the above practices contribute to attaining the workforce agility, usually supported by employees' empowerment and reward to motivate employees to be proactive, adaptive and resilient (personal resources), utilize job resources, and anticipate resources that might be needed in the future to easily fulfill job demands. In short, agile organizations adopt practices that support constant heightening for their sensing, seizing and reconfiguring capabilities. These practices are: (1) learning and development, (2) knowledge sharing, (4) job enrichment and rotation, (5) teamwork and collaboration, (6) leadership and leadership support, (7) social support, (7) autonomy and control, (8) employees' involvement, and (9) employees' empowerment and rewarding. All these job resources foster the employees' abilities to rapidly and efficiently sense and respond to change, which in turn foster the organizational agility capabilities development (Charbonnier-Voirin, 2011; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014).

Extant research highlighted the negative link between job demands and WLB especially when job demands involve changing tasks, time pressure, work load and ambiguity because these demands might hinder employees from attaining their aspired balance between work and life due to the excessive job demands that exceed their capacity. Consequently, the job demands will deplete the employees' energy by increasing exhaustion and detach them from work, which negatively influence work engagement (Niessen et al., 2018; Zheng et al., 2015). However, in an agile context and based on the job resources provided (contextual and personal resources), when employees are provided autonomy, control over their work, social support and ability to

perform job crafting and redesign their jobs the way they see appropriate, they are likely to attain the aspired work-life balance. Therefore, in this case, WLB as a resource can act as a buffer that diminishes the exhaustion that might occur due to the challenging job demands required to attain organizational agility.

Consequently, WLB can mediate the relationship between organizational agility and employee well-being because it buffers the impact of the challenging job demands of organizational agility by having the autonomy and social support to craft their jobs, ask for support and manage in a way that enable them to achieve the balance between work and non-work life demands (Haar, 2013). Moreover, the organizational practices that reinforce personal growth and development including the interpersonal skills and personal resources will allow the employees to benefit from those skills in their non-work life and will equip them not only with the knowledge but also robust soft skills that are needed in personal life to efficiently handle personal matters (Carlson et al., 2009; Greenhaus and Allen, 2011). Therefore, developing KSAs in addition to fostering the employees' proactive, adaptive and resilient behavior would positively influence their personal lives because they can capitalize on their abilities acquired at work to better handle their non-work life. Consequently, employees can feel less exhaustive and show more engagement at work when they attain the desired balance and their energy are not drained at work or in their personal life.

Therefore, the following set of hypotheses are proposed:

H1: Organizational agility is positively related to EWB.

H1a: Sensing ability is positively related to Vig.

H1a: Sensing ability is negatively related to Ex.

H1b: Seizing ability is positively related to Vig.

H1b: Seizing ability is negatively related to Ex.

H1c: Reconfiguring ability is positively related to Vig.

H1c: Reconfiguring ability is negatively related to Ex.

H2: WLB mediates the relationship between organizational agility and EWB.

H2a: WLB mediates the relationship between sensing ability and Vig.

H2a: Sensing ability is negatively related to Ex through the mediation role of WLB.

H2b: Seizing ability is positively related to Vig through the mediation role of WLB.

H2b: Seizing ability is negatively related to Ex through the mediation role of WLB.

H2c: Reconfiguring ability is positively related to Vig through the mediation role of WLB.

H2c: Reconfiguring ability is negatively related to Ex through the mediation role of WLB.

H3: Organizational agility is positively related to WLB.

H3a: Sensing ability is positively related to WLB.

H3b: Seizing ability is positively related to WLB.

H3c: Reconfiguring ability is positively related to WLB.

***HRF - WLB - EWB***

When organizations adopt strategic agility, all the organizational systems have to align and adapt to new strategies by becoming flexible to ensure constant organizational alignment to the changes occurring externally or internally in the business environment, which accordingly boost the organizational overall agility in response to change. HRF identified in extant research, as a vital dynamic capability, enables the organization to adapt in turbulent and dynamic environment by adapting employees' knowledge, skills and behaviors and motivate them to effectively perform and rapidly respond to changing business environment, while developing tolerance to the unpredictability and uncertainty nature of the working conditions (Camps et al., 2015; Ketkar and Sett, 2009; Tracey, 2012; Úbeda-García et al., 2016, 2017; Way et al., 2017).

Until now, there is a debate in the literature on which set of HR practices are positively associated with employee work-life balance and employee well-being. Extant research argued that usually HR practices aim to improve the organizational performance at the expense of employees' work-life balance and well-being (Guest, 2017). On the other hand, few studies asserted that that HR practices promote organizational performance through their positive effect on employees' work-life balance and well-being (Haar, 2013; van De Voorde et al., 2012). Research in human resources management area building on the JD-R model has indicated that human resource practices can have a significant influence on job demands and resources, and may indirectly impact EWB (Bakker and Demerouti, 2018; Haar et al., 2019; Peccei and van de Voorde, 2019).

In this current study, the HR flexibility in agile context has not been examined before in association with WLB and EWB. Moreover, the previous research associated only HR

practices with EWB, but in fact HRF is composed of HR practices flexibility (HRPF) and employee flexibility, which incorporate employees' skills flexibility (ESF) and employees' behavior flexibility (EBF). Moreover, the HR practices incorporated in the HRF are not static. On the contrary, they are flexible practices which facilitate their alignment and adaptation to respond to the business requirements. Therefore, it is essential to emphasize that the objectives of the HRF in agile context are different from the objectives of traditional HRM systems in stable business environment and working conditions. As explained earlier, HRF constantly develops an organization's capabilities by ensuring constant adaptation and alignment of the internal systems to the turbulence and dynamism of the business environment (Bhattacharya et al., 2005; Teece et al., 2016). HRF boosts the organizational flexibility and responsiveness to change through providing wide range of alternative uses of the organizations' resources and diverse ways to rapidly acquire, deploy, redeploy and develop the resources at minimal costs. Therefore, it entails not only generating new resources but also finding alternative uses to existing resources to maximize the benefits and upsurge flexibility (Way et al., 2015, 2017).

Examining the HRF-WLB- EWB relationship building on the JD-R model:

HRF necessitates that the workforce becomes highly flexible, capable to handle new challenges and changing job requirements by finding alternative uses to their skills and behaviors repertoire to create new and non-routine approaches/solutions in handling new situations/ new job demands (Camps et al., 2015). Moreover, HRF denotes acquiring and re-generating diversified skills and knowledge that are useful in responding to new unfamiliar challenges. Besides, it relies on the employees' personal resources (proactive personality, coping ability and positive PsyCap) to stimulate employees to rapidly and efficiently handle



constant unpredictable changing job demands, and show tolerance to uncertainty and ambiguity).

Nevertheless, the same paradox effect applies as HRF has the job demands and resources inherited in the three constitutes of the HRF and while the job demands are challenging, HRF is also about motivating the employees to proactively address challenges to eventually boost the organizational flexibility and responsiveness (Luu, 2019; Úbeda-García et al., 2017). Moreover, the HRPF plays essential role in always keeping employees' KSAs aligned and renewed. HR practices are also aligned to the new conditions and most importantly keep employees motivated and empowered to master their roles (Ketkar and Sett, 2010; Way et al., 2018).

Consequently, HRPF is fundamental for developing employee's flexibility because these practices encourage employees' adaptation to change by constant provision of aligned and relevant resources, enabling access to new knowledge and information that prepare the workforce for any future changes, and nurture them with essential KSA (Ketkar and Sett, 2010). Therefore, the HR practices are supposed to initially be flexible to ensure continuous alignment and renewal of the employees' flexibility (Way et al., 2015). These practices are relevant to employees' KSA development and renewal, provide opportunity for the employees to utilize their KSA timely and freely, and keep the employees motivated and empowered to utilize their KSA and personal resources in respond to change (Beltrán-Martin and Roca-Puig, 2013; Camps et al., 2015; Ketkar and Sett, 2010).

HRPF involve practices relevant to learning, training and development and knowledge sharing at wide scale inside the organization, to allow acquisition of diversified skills and

knowledge concerning different areas in the business. The aim is to widen the employee's skills and knowledge repertoires (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015). The application of these processes occurs fast so that employees remain updated and aware of new requirements of the business. In addition, HRPF aligns the communication processes and channels to facilitate and accelerate the knowledge and information circulation within the organization. Subsequently, this knowledge improvement develops the employees KSA and stimulate proactive behavior once the information is shared (Camps et al., 2015; Way et al., 2018). Moreover, the traditional HR practices like selection and staffing, performance management and appraisal, rewarding and incentives, compensation, job enrichment, job rotation, team-based work structures, employee empowerment and involvement are aligned with the business requirement to ensure that the employees fit into dynamic fast paced changing and working. These HR processes need to reinforce and promote employees adaptive and proactive behaviours, KSA acquisition, and flexibility (Tracey, 2012).

All the above practices boost the employees' flexibility through development, where employees are given the opportunity to learn and acquire wide range of skills and knowledge, augment the employees' continual exposure to new situation and new challenges (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015; Ketkar and Sett, 2009, 2010; Sanyal and Sett, 2011). KSA and personal resources development in general are also beneficial for the employees in their non-work life, being knowledgeable and possessing interpersonal skills and continuous stimulation to the employees proactive, adaptive and resilience behavior, especially when these behaviors are developable and allow the employees to have better control of their work and non-work life (Haar, 2013). Besides HRPF, job designs need to be compatible with the business requirement and promote flexibility, so job characteristics entail autonomy, skill variety, task diversity, performance appraisal and feed-back (Beltrán-Martín and Roca-Puig,

2013; Jiang et al., 2012), Accordingly, employees could perform diverse task and continually learn and acquire new KSA, foster proactive discretionary behavior, and be given the opportunity to exhibit these behaviours (Úbeda-García et al., 2017). In addition, HRF reinforces leader support as it is essential to boost employees' flexibility by providing guidance, resources and freedom/self-directing employees (Luu, 2019; Tuan, 2016; Úbeda-García et al., 2017).

By comparing the HR practices in agile/flexibility context with well-being-oriented human resource management practices, similarities can be found between the two practices, despite the fact that the former is envisioned to promote employees' flexibility, while the latter is intended to promote employee well-being (Guest, 2017; Cooper et al., 2018). Consequently, it is expected that HR practices flexibility can also promote employee well-being. Nevertheless, since HR practices in agile context involve job demands and resources simultaneously, work-life balance would act as an essential resource that buffers the negative influence of the job demands on employee well-being, as it ensures that job demands are not interfering with their non-work life, which could drain their energy on the long term due to failure of attaining the aspired balance (Haar, 2013; ter Hoeven and van Zoonen, 2015).

Employee flexibility (ESF and EBF) has been recognized as a dynamic capability that enables organizations face turbulent and dynamic business environments (Teece et al., 2016). Employee flexibility actually demonstrates the employees' possession of skills and behavioral repertoires that provide organizations with options to pursue strategic alternatives. Therefore, flexible employees can apply an array of diverse strategies/solutions that are appropriate to realize diverse challenging demands confronting the organization (Camps et al., 2015).

Employee flexibility demonstrates the employees' eagerness to unceasingly learn and acquire diverse new skills, knowledge sharing, autonomous yet collaborative, open to change, capable of adapting in changing work environment, proactively take initiative and improvise to handle new situations or new job demands through new approaches different from the traditional ways followed to handle standard repetitive job duties (Beltrán-Martín and Roca-Puig, 2013; Camps et al., 2015). Accordingly, employee flexibility entails personal resources that will enable employees to respond to the job demands (Beltrán-Martín and Roca-Puig, 2013). ESF and EBF do not only give an indication about the skills and behaviors possessed by the employees but they also demonstrate their willingness and motivation to utilize these resources to actually handle challenging job demands (Way et al., 2015). Capitalizing on the personal resources and by utilizing the job resources as part of the organizational resources would enable the employees to handle job demands. These resources and WLB will also reduce energy depletion and exhaustion while increase the employees' work engagement (Haar, 2013; ter Hoeven and van Zoonen, 2015).

Therefore, the reasoning above leads to the following set of hypotheses:

H4: HRF is positively related to employee well-being.

H4a<sub>1</sub>: HRPF is positively related to Vig.

H4a<sub>2</sub>: HRPF is negatively related to Ex.

H4b<sub>1</sub>: ESF is positively related to Vig.

H4b<sub>2</sub>: ESF is negatively related to Ex.

H4c<sub>1</sub>: EBF is positively related to Vig.

H4c<sub>2</sub>: EBF is negatively related to Ex.

H5: WLB mediates the relationship between HRF and EWB.

H5a<sub>1</sub>: HRPF is positively related to Vig through the mediation role of WLB.

H5a<sub>2</sub>: HRPF is negatively related to Ex through the mediation role of WLB.

H5b<sub>1</sub>: ESF is positively related to Vig through the mediation role of WLB.

H5b<sub>2</sub>: ESF is negatively related to Ex through the mediation role of WLB.

H5c<sub>1</sub>: EBF is positively related to Vig through the mediation role of WLB.

H5c<sub>2</sub>: EBF is negatively related to Ex through the mediation role of WLB.

H6: Human resources flexibility is positively related to work-life balance.

H6a: HRPF is positively related to WLB.

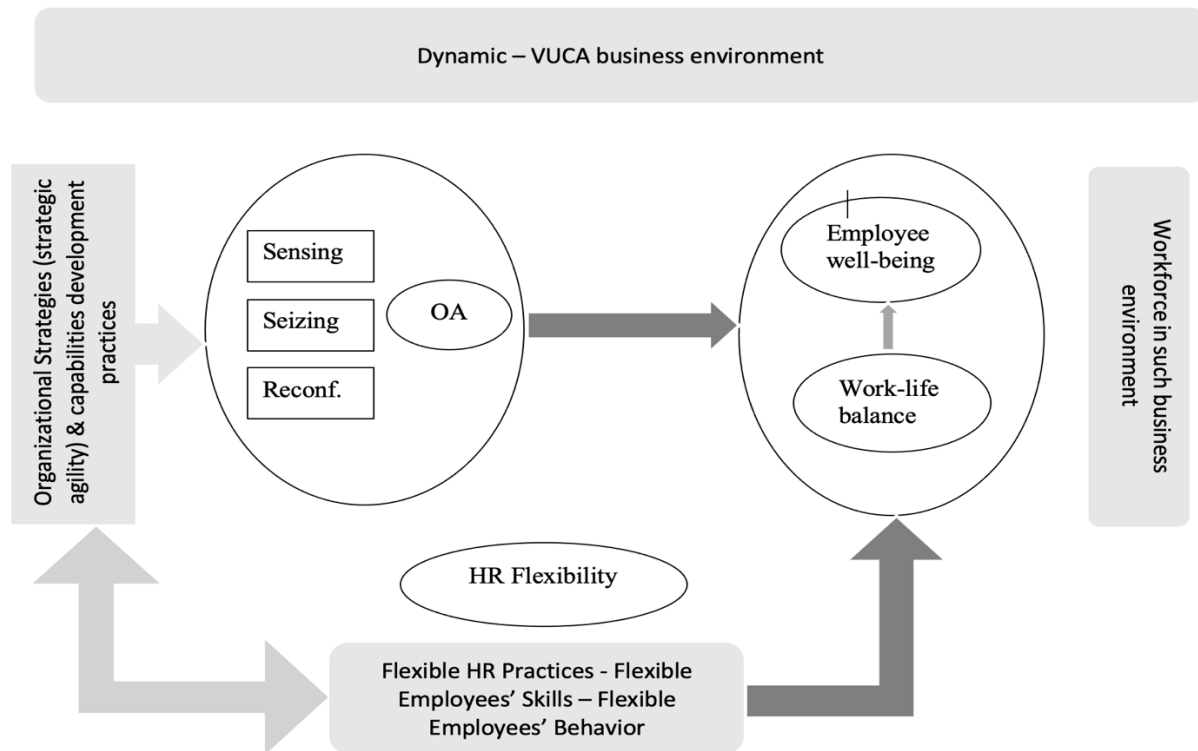
H6b: ESF is positively related to WLB.

H6c: EBF is positively related to WLB.

## Conceptual Framework

Figure 1

### *Conceptual Framework*



Note: This figure illustrates the variables adopted in this study and demonstrates the business environment that stimulated building this relationship between the variables.

## Summary

This chapter raises the main research questions that stimulated performing this study at the first place. The research questions instigated the research hypothesis that led to following a logical reasoning that rationalizes the relationships between the variables adopted in this study. Accordingly, this study developed a conceptual framework that stems from deeper exploration of the literature review and with fervent endeavours to fill the gap in the literature.

## **Chapter 4: Research Methodology**

This chapter explains the research study design, the participants and data collection procedures, the demographic characteristics, descriptive statistics, the instruments, and the methods deployed for the data analyses.

### **Research Design**

The purpose of this study is to empirically test the mediation effect of WLB in the relation between organizational agility, human resources flexibility and employee well-being, specifically in the information communication technology (ICT) industry. The targeted sample for this research purpose encompassed participants working in ICT companies in Egypt. The questionnaire was in English language because English is the official business language in Egypt especially in the ICT industry. Therefore, it was unnecessary to translate the questionnaire into Arabic language, the native language of the country.

The self-report questionnaire was developed using four existing measurements and demographic questions. Pilot studies were conducted with ICT industry subject matter experts and a small sample of employees from different levels in ICT companies working in Egypt (N = 5). These pilot studies aided to confirm the clarity of the survey instructions and questions. Last, the survey was administered to ICT workforce employed in various ICT companies with different sizes in Egypt. After data collection, the data were analyzed in aggregate form. Confirmatory factor analysis was conducted and then path analysis was deployed to examine the sequences of relationships among the variables in this study. The 47 questions were adopted from four questionnaires, 12 items measuring OA constructs, 22 items measuring HRF dimensions, 3 items measuring WLB, and 10 items measuring EWB constructs. Additionally,

participants were asked questions related to demographic characteristics of the organization and themselves. Six principal hypotheses with their sub-hypothesis were generated and examined to answer the study questions. CFA combined with path analysis was applied to examine the hypothesis embraced in our study. The hypotheses were tested using path analysis in AMOS (v. 25) to assess the direct relationship between the independent variables and the dependent variables and to assess the meditation effects of the study variables.

### **Participants and Data Collection Procedures**

The population of this study consists of ICT workforce employed in different companies in Egypt. The ICT industry was selected as the population of interest because there is a noticeable fast-paced unpredictable change constantly happening in the ICT industry. Moreover, the ICT industry contributes in changing and developing other industries that entails; for example: digitalization, collaborative tools, big data, and artificial intelligence. We contacted more than 500 individuals working in ICT companies via social media (LinkedIn), emails, Visio or phone calls and arranged meetings to explain the purpose of the research study and to seek permission to use their responses in our study. For this study, convenience sampling was used. In particular, 200 valid responses were collected, which is 40 percent of the contacted individuals. This 40 percent is considered an acceptable response rate (Baruch and Holtom, 2008). Baruch and Holtom (2008) verified response rates for surveys used in organizational research from 2000 to 2005 in 17 refereed academic journals, which covered more than 100,000 organizations. The average response rate for studies was 35.7 percent.

After receiving the participants' acceptance to respond to our questionnaire, an online survey link was sent to the individuals working in ICT companies via email or private messages on LinkedIn or via WhatsApp message, based on each individual's preference and most



convenient communication tool for them. Participation in this study was voluntary. The email or the message sent in addition to the first section of the survey contained the necessary information about the study: the purpose and significance of the study, the voluntary nature of participation in the study, and the freedom of the respondents not to answer any questions or to withdraw their participation from the study. They were also given the freedom to state their company's name or not.

### **Demographic Characteristics and Descriptive Statistics**

The participants consisted of ICT companies' workforces employed at different organizational sizes, large, small, medium enterprises in Egypt. The participants were requested to provide basic demographic data about themselves. The questions comprised: age, gender, marital status, and current position. Similarly, information about the company was also requested, such as company size (measured by the number of employees) and the company age (measured by the years of existence in the market). Demographic data covered in our study are considered as control variables. Table 2. is showing the demographic characteristics of the participants

*Table 2*

*Demographic Characteristics of the Participants (N = 200)*

Characteristic		n	%
Gender	Male	108	54.0%
	Female	92	46.0%
Age	<25	33	16.5%
	25-34	90	45.0%
	35-44	51	25.5%
	45-54	21	10.5%
	≥ 55	5	2.5%

Marital Status	Single	99	49.5%
	Married	84	42.0%
	Divorced	17	8.5%
Current Position	Director/Executive/Top Management	31	15.5%
	Manager	43	21.5%
	Human Resources Manager	19	9.5%
	Human Resources employee	22	11.0%
	Employee	85	42.5%
Company Size (# of employees)	1-10 employees	11	5.5%
	11-50 employees	37	18.5%
	51-200 employees	34	17.0%
	201-500 employees	14	7.0%
	501-1000 employees	16	8.0%
	1001-5000 employees	35	17.5%
	5001-10,000 employees	11	5.5%
10,001+ employees	42	21.0%	
Company Age (years of existence in the market)	< 1 year	2	1.0%
	1 - 5 years	38	19.0%
	6 - 10 years	57	28.5%
	≥ 10 years	103	51.5%

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## Measures

### *Research Variables*

This study utilized four existing self-report instruments which are all well-established and have been validated previously in other studies. We measured OA constructs (sensing, seizing and reconfiguring) based on Wilden et al.'s (2013) scales, which was built on dynamic capabilities measurement scales, where the abilities to sense opportunities, to seize them, and to reconfigure the organizational resource base are essential components of the dynamic capability construct (Teece, 2007; Wilden et al., 2013). The organizational agility index is built up of its elements, that is, the elements compile to form the index and any changes in the elements would lead to a change in the implicit meaning of the construct (Barreto, 2010; Wilden et al., 2013). Nevertheless, the elements are not exchangeable because the constructs do not have similar constituent and explain particularly different organizational agility processes. Therefore, the three variables are considered as first order elements which represent the organizational agility capabilities (Wilden et al., 2013). Accordingly, we measured organizational agility's three constructs by deploying an adopted version of Wilden et al. (2013) four-item measurement scale for each construct.

The participants were asked to evaluate each scale that composes the constructs of organizational agility on a seven-point Likert-scale, where 1 signifies 'rarely' and 7 signifies 'very often'. An example of sensing items: "In my organization, we use established processes to identify target market segments, changing customer needs and customer innovation". An example of seizing items: "In my organization, we adopt the best practices in our sector". An example of reconfiguring items: "Substantial renewal of business processes". Table 2 shows all pertinent items enclosed in this study.

HRF was measured with an adapted version of Bhattacharya et al.'s (2005) measure. Úbeda-García et al. (2017) have found the three factors measured HRF explain 84.89 percent of variance. The three factors are HRPF, ESF and EBF where the reliabilities were shown to be adequate. Table 2 reports the results of reliability analysis for all pertinent variables. The participants were asked to evaluate each scale that composes the constructs of HRF on a seven-point Likert-scale, where 1 signifies 'strongly disagree' while 7 signifies 'strongly agree'. An example of a HRPF item includes "Our HR practices meaningfully adapt to changed business scenarios". An example of an ESF item is "People in our organization can learn new skills within a short period". An example of an EBF item is "People in our firm readily change their work habits as demanded by changes within the working environment".

EWB incorporates two main constructs: work engagement (WE) and exhaustion (EX), based on Huo and Boxall's (2017) measures. Huo and Boxall (2017) adopted the reduced version of Utrecht Work Engagement Scale, revised by Demerouti et al. (2010). Work engagement encompasses two core dimensions 'vigor' and 'dedication', where each dimension was measured by three items. Participants were asked to evaluate each scale on a seven-point Likert-scale, where 1 signifies 'never' and 7 signifies 'always' (example item: "When I get up in the morning, I feel like going to work"). Moreover, 'exhaustion' items in Huo and Boxall (2017) were adopted from the Oldenburg Burnout Inventory (Demerouti et al., 2003), which were also adopted by Hu and Schaufeli (2011), (example item: "During my work, I often feel emotionally drained.") All of the scales showed good composite reliability ( $> 0.70$ ), whereas exhaustion's composite reliability was (0.77), while work engagement's composite reliability was (0.92) in Huo and Boxall's (2017) study. However, in our study the chi-square statistic for the variable 'dedication' didn't meet the minimum acceptable standards and we had to remove

the three items that measured 'dedication'. Nevertheless, all the items measuring the rest of the variables were found to be acceptable indicators of their intentional constructs and hence reserved in our model.

WLB was measured through three-item measure adopted from Haar (2013). The three items are: "Nowadays, I seem to enjoy every part of my life equally well", "I am satisfied with my work – life balance, enjoying both roles", and "I manage to balance the demands of my work and personal/family life well". These measures are generally around the level of satisfaction, enjoyment and management of all life's roles incorporating work and all aspects of life but not limited to family roles (Haar, 2013). WLB showed adequate reliability ( $\alpha = 0.80$ ) according to Haar's (2013) study and we accordingly tested the reliability of the variable in our study which similarly showed adequate reliability ( $\alpha = 0.97$ ). Table 2 shows all pertinent variables in our model.

### ***Control variables - demographic information***

Demographic variables that habitually recognized in the literature to influence employees' work-life balance and employees' well-being are controlled for in the analysis (e.g., Valcour, 2007, Haar, 2019). The model controlled for age (in years), gender (1 = female, 0 = male), marital status, current position, company age, and company size.

The definitions of four variables used in this study are listed in Table 3.

## Definition of the key variables

Table 3

*Definition of the Study Variables*

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Organizational agility	is a key dynamic capability that enables the organization to sense and respond efficiently to the environmental changes through learning and innovation, OA enables organizations compete in extremely VUCA or dynamic environments (Felipe et al., 2016, 2019)
Sensing	“analytical systems to learn and to sense, filter, shape, and calibrate opportunities”. Teece (2007: p. 1326)
Seizing	“seizing market opportunities that permit a firm to revise its positioning and strategies and organize new business approaches to gain early advantages in changing conditions”. Chakravarty et al. (2013, p. 978)
Reconfiguring	“Continuous Alignment and Realignment of Specific Tangible and Intangible Assets, it requires the allocation, reallocation, combination, and recombination of resources and assets”. Teece (2007: p. 1340,41)
Human resources flexibility	“a firm level capability that represents the extent to which a firm's human resources and HR practices enable the firm to be responsive to changes in competitive outputs and pressures and readily and effectively pursue strategic courses of action in response to competitive changes.” Way et al. (2017: p.02)

Human Resources practices flexibility	the degree to which the HR practices can be adapted and implemented through various situations, or in different sections or units of the organization beside the extent to which the organization can rapidly resynthesize, reconfigure and redeploy the HR practices (Beltrán- Martín et al., 2008; Úbeda-García et al., 2017).
Employee behavior flexibility	the ability and willingness of the employees to adjust and adapt their behavior to new or challenging circumstances that are unusual or unfamiliar to them (Beltrán-Martín et al., 2008; Way et al., 2015).
Employee skill flexibility	“number of potential alternatives uses to which employee skills can be applied and how individuals with different skills can be redeployed quickly” Wright and Snell (1998: p.764).
Work-life balance	“the extent to which an individual is able to adequately manage the multiple roles in their life, including work, family and other major responsibilities” Haar (2013: p. 3308).
Employee well-being	“the overall quality of an employee's experience and functioning at work” Grant et al. (2007: p. 52), which is conceptually grounded in two elements: work engagement and exhaustion as the employee well-being indicators (Huo and Boxall, 2017).

### **Statistical procedure**

Firstly, we examined the potential presence of common method variance (CMV), since the participants responded to all the variables The Harman’s single-factor test is included after performing confirmatory factor analysis (CFA) that comprises all the indicators per scale, to

be able to determine whether most of the variance in this model is justified by a general factor (Podsakoff et al., 2012). Nevertheless, common method bias was minimal. We added a common latent factor (CLF) to the CFA model, and then we connected it to all observed items in our model. Afterwards, we compared the standardized regression weights from this model to the standardized regression weights of the model without the common latent factor. There were items with differences greater than 0.200 so the data were imputed. Finally, the percentage of variance explained by the common latent factor is 8.4%.

The data collected from the study were analyzed by utilizing the software packages SPSS and AMOS 25.0. A four-step procedure was employed. First, confirmatory factor analyses (CFAs) was employed, and Cronbach's alpha coefficients were tested. Second, the descriptive analysis was conducted to report the means and standard deviations of each of the variables were computed, and a Pearson correlation analysis was performed to test the relationships among the variables of the research. Third, a common method variance test was conducted to verify if there was a bias in the respondents' responses specially it was a self-reported questionnaire. We added a common latent factor (CLF) to our CFA model, and then we connected it to all observed items in our model. Fourth, a path analysis was employed to check the sequences of relationships amongst the suggested variables in this research.

### **Reliability of the Measures**

Reliability is the degree of measuring the internal consistency of data on an instrument it is supposed to measure. Cronbach's alpha,  $\alpha$ , is vastly recognized as the most prevalent measure of the degree of a factor's reliability. According to Field (2009), the accepted and agreed upon value of Cronbach's alpha is at least 0.70. In our research, the Cronbach's alpha values for all variables in our instrument ranged from 0.97 to 0.99, which show that the



measures have good internal consistency reliability. Table 4. reports the Cronbach's alpha values.

### Correlation Analysis

The means ( $\bar{x}$ ) and standard deviations (SD) are computed for all the variables. The Pearson correlation coefficient,  $r$ , ranges from -1 to +1. Values between +.3 to +.5 demonstrate a medium association between two variables (Cheung and Chan, 2004). For example, if the correlation coefficient value moves close to 0, the relationship between two variables will be weaker. The direction of the relationship is denoted by the sign of the coefficient, a + sign denotes a positive relationship while a – sign denotes a negative relationship (Field, 2009).

Table 4

#### *Reliability Analyses for the Measures of the Study*

Construct	N of Items	Cronbach's alpha
Sensing	4	,98
Seizing	4	,98
Reconfiguration	4	,97
HRPF	7	,99
ESF	7	,99
EBF	8	,99
WLB	3	,97
Vig	3	,98
EX	4	,97

From the previous table we can conclude that the whole questionnaire is reliable as the values of Cronbach's alpha for all constructs are above 0.70. The results of measurement model evaluation implied that the reliability of the measurement model is suitable for the path analysis.

### Confirmatory Factor Analysis

CFA was employed to test the validity of the instrument utilized. CFA is considered as a version of factor analysis by which researchers can comprehend better the structure and relations amongst the variables embraced in the research. All the variables used in this research were constructed based on assumptions and theoretically as well. Principally, a model is assessed on the basis of two imperative parameters; precisely, overall goodness of fit, size and interpretability and statistical significance of the model parameter estimates (Fornell and Larcker, 1981; Hair et al., 2010). The absolute goodness of fit of the models were evaluated by means of absolute and relative indices (Hair et al., 2010) and were calculated through (a) the  $\chi^2$  goodness-of-fit statistic, (b) root mean square error of approximation (RMSEA), (c) comparative fit index (CFI), (d) goodness-of-fit index (GFI), and (e) Tucker–Lewis index (TLI) (Hair et al., 2010). According to Hair et al. (1998, 2010), a model is considered to be a good fit when RMSEA is near to 0.06, CFI is greater than 0.90 and TLI values are near to 0.90. We tested 3 CFA models. The first model includes the first order factors. The second model includes the second order factors. The third model includes the common latent factor based on the first model. The results of the three models' comparison are demonstrated in Table 5.

Table 5

*Fit indices for the CFA results*

Model	$\chi^2$ (df), p-value	$\square\chi^2$	IFI	TLI	CFI	RMSEA
Model 1	1962 (865), $p < .001$	-	0.95	0.94	0.95	0.08

---

Model 2	2118 (886), $p < .001$	156 (21) ***	0.95	0.94	0.95	0.08
Model 3	1954 (865), $p < .001$	8 (0)	0.95	0.94	0.95	0.08

---

*Note.* \*\*\* statistically significant at 0.001 level

### **Structural model analysis - Path Analysis**

Path analysis was conducted to inspect the sequences of relationships amid the variables in this research. Path analysis is known as a method for examining the directions of the relationships between a set of variables. Moreover, researchers can test the mediating and moderating effects (Chin, 1998; Tabachnick and Fidell, 2007).

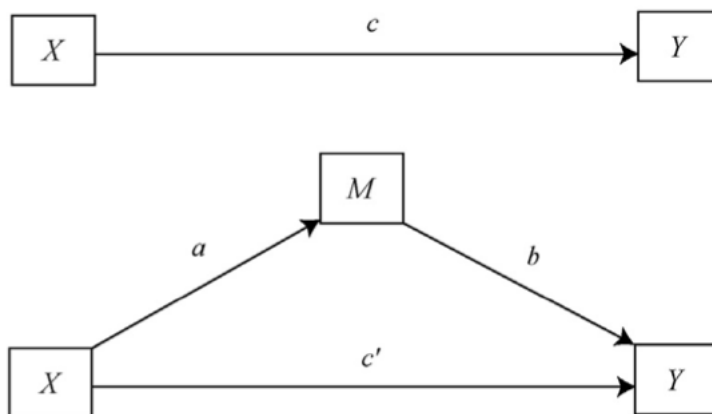
### **Mediation Analysis**

Mediation describes how a mediator (M) intermediates the relation between the independent variable (X) and the dependent variable (Y) and elucidates the motive of the existence of this relationship. The aim of mediation analysis is to check if the impact of the mediator is a better explainer than the direct impact of the independent variable on dependent variable and whether the mediation effect is partial or full mediation. In this study, there is one mediator in the causal relationship of X on Y, which is called simple mediation. Theoretically, simple mediation denotes that a change in X generates a change in M, the path from X to M is path a, this change will eventually lead to a change in Y and the path from M to the outcome Y is path b. When the indirect effect (ab) is bigger than or smaller than zero and significant, then it is an indication that there is indirect mediation effect either partial or full mediation (Zhao et al. 2010). Bootstrapping procedure is applied with 5000-bootstrapping iterations to

place 95% confidence intervals across the estimations of the indirect effect of the mediator in the relationship between X and Y (Preacher and Hayes, 2008). In Figure 2, the direct and indirect paths are explained.

Figure 2

*Direct and indirect paths*



Source: Hayes and Rockwood (2017)

*Note:* X is the predictor, Y is the outcome, the direct path from X to Y without the mediator is called c. M is the mediator, the path from X to Y in the presence of the mediator is called c'. While the path from X to M is called a and the path from M to Y is called b. The mediation indirect effect = ab.

### Summary

This chapter presents the research design, sample, data collection procedure, demographic characteristics, and descriptive statistics. There was a total of 200 participants. Moreover, the measures and their reliabilities and validities are tested. Finally, the methods deployed for the data analyses are covered.

## Chapter 5: Results

This chapter presents the results of the empirical tests conducted to examine the hypotheses discussed in chapter 3. First, the correlations between variables are discussed. Afterwards, the results of path analyses are discussed.

### Correlations

Table 6 reports the means, SDs, and correlation coefficients. There are strong positive correlations ( $r > 0.8$ ) between sensing, seizing and reconfiguring (OA constructs) and WLB. There are also strong negative correlations between sensing, seizing and reconfiguring (OA Constructs) and EX as the correlation coefficients are  $> -0.70$ . Also, there are also strong positive correlations between sensing, seizing and reconfiguring (OA Constructs) and Vig as the correlation coefficients are  $> 0.70$ . Moreover, there are strong positive correlations between HRPF, ESF and EBF (HRF constructs) and WLB as the correlation coefficients are  $> 0.70$ . There are strong negative correlations between HRPF, ESF and EBF (HRF constructs) and EX as the correlation coefficients are  $> -0.70$ . Also, strong positive correlations between HRPF, ESF and EBF (HRF constructs) and Vig as the correlation coefficients are  $> 0.70$ .

Table 6

*Means, Standard Deviations, and Correlations among Variables Used in the Study*

	Me an	S D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. EX	3.0	1.74	.92	.93	.87	.88	.88	.74	.89	.88	.68	.59	.26	.02	.16	.35	
2. Vig	4.8	1.54	1**	3**	1**	6**	3**	9**	7**	3**	9**	6**	1**	5	9*	7**	
3. WLB	3.4	1.16		.86	.87	.89	.81	.84	.82	.68	.57	.33	.03	.18	.37		
				3**	4**	9**	6**	4**	3**	5**	7**	7**	8	5**	5**		

4.	4.7	2.		.97	.96	.89	.90	.91	.72	.63	.29	.05	.18	.36
HRPF	6	02		3**	7**	2**	1**	1**	0**	7**	4**	9	1*	0**
5.	4.9	1.			.98	.88	.92	.93	.71	.63	.26	.04	.14	.34
ESF	4	83			3**	8**	7**	5**	5**	5**	0**	6	7*	0**
6.	4.8	1.				.88	.92	.91	.70	.61	.27	.05	.16	.34
EBF	1	85				6**	1**	4**	7**	5**	7**	2	1*	9**
7. Rec	4.2	1.					.80	.86	.72	.65	.33	.09	.19	.33
	2	79					3**	5**	3**	3**	4**	3	4**	3**
8.	5.1	1.						.95	.68	.62	.27	.07	.18	.37
Seizin	5	63						3**	2**	4**	0**	1	3**	6**
g														
9.	5.0	1.							.71	.66	.26	.04	.17	.36
Sensi	2	58							1**	7**	0**	6	6*	0**
ng														
10.										.78	.36	.05	.26	.34
Comp										9**	3**	1	9**	1**
any														
Size														
11.											.35	.06	.25	.32
Comp											0**	1	3**	0**
any														
Age														
12.												.14	.67	.65
Age												3*	6**	6**
13.													.01	.13
Gende													9	6
r														
14.														.43
Marit														0**
al														
Status														
15.														
Curre														
nt														
Positi														
on														

Note. EX = exhaustion; Vig = vigor; WLB = work-life balance; HRPF = human resources practices flexibility; ESF = employee skills flexibility; EBF = employee behavior flexibility; Rec = reconfiguration \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

## Path Analyses

Path analysis was conducted by utilizing the maximum likelihood method with the 5000 bootstraps. The standardized path coefficients for the model are reported in figure 2 and table 7. The results of the fit indexes and the effects are tested. First, it is essential to mention that the minimum sample size for the path analysis is 200. This number is according to the estimations of bias for the component  $r^2$  measurement for mediation (Fairchild et al., 2009). According to Fairchild et al. (2009), there was no estimation of bias for  $r^2$  measures exceeding .005 in any form where  $n \geq 200$ . In our research, our participants from ICT companies in Egypt ( $n = 200$ ) and  $r^2 = 0.0841$  or 8.4%. Moreover, there are no missing values in the variables.

The following fit indexes are used to assess our model fit: (a) the comparative fit index (CFI), where values more than .95 designates a good-fitting model; (b) Normed Fit Index (NFI), where values should be more than .95; (c) Goodness of fit index (GFI), the ratio of variance explained by the expected population covariance, where  $GFI \geq 0.95$  designates a good-fitting model; (d) the root mean square error of approximation (RMSEA), where a value closer to 0 denotes a good-fitting model (Tabachnick and Fidell, 2007). The proposed model exhibited good model fit as shown in Table 7.

Figure 3  
Path Model

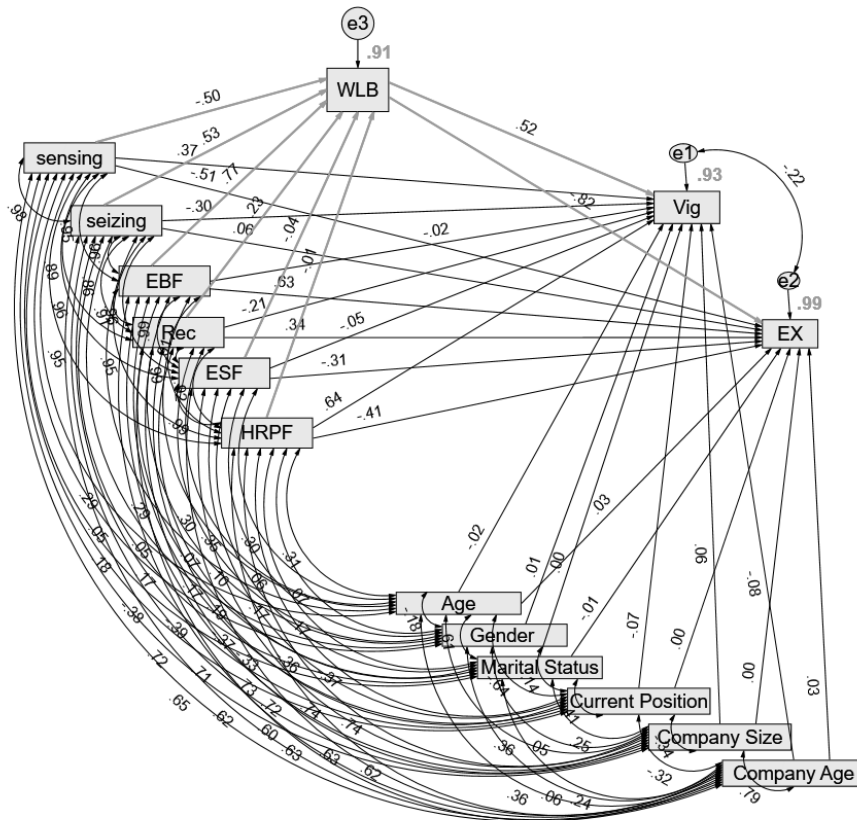


Table 7

Model Fit Summary

Model	CFI	NFI	GFI	RMSEA	CMIN	P
Default model	1.00	.99	.99	.00	7.30	.50



Table 8

*Path Coefficients*

			Estimate	S.E	P
WLB	<---	sensing	-.371	.105	***
WLB	<---	seizing	.377	.107	***
WLB	<---	EBF	.480	.116	***
WLB	<---	Rec	.149	.040	***
WLB	<---	ESF	-.025	.133	.853
WLB	<---	HRPF	-.008	.088	.927
EX	<---	sensing	-.566	.057	***
EX	<---	seizing	.065	.057	.251
EX	<---	EBF	.595	.063	***
EX	<---	Rec	.336	.022	***
EX	<---	Age	.054	.021	.009
EX	<---	MaritalStatus	-.023	.025	.357
EX	<---	CurrentPosition	.017	.035	.621
EX	<---	CompanySize	-.007	.029	.797
Vig	<---	sensing	.365	.129	.005
Vig	<---	seizing	-.287	.129	.027
Vig	<---	EBF	-.017	.143	.908
Vig	<---	Rec	-.181	.050	***
Vig	<---	ESF	-.041	.157	.796
EX	<---	ESF	-.297	.069	***
Vig	<---	HRPF	.490	.102	***

EX	<---	HRPF	-.350	.045	***
Vig	<---	Age	-.037	.048	.443
Vig	<---	Gender	.028	.059	.637
Vig	<---	MaritalStatus	-.001	.057	.992
Vig	<---	CurrentPosition	-.215	.079	.006
Vig	<---	CompanySize	.110	.066	.095
EX	<---	CompanyAge	.056	.027	.038
Vig	<---	CompanyAge	-.160	.061	.009
Vig	<---	WLB	.688	.082	***
EX	<---	WLB	-1.223	.036	***

*Note.* n = 200; \*\*\* statistically significant at 0.001 level

### Hypotheses Testing

The paths between the different latent variables and accordingly the related research hypotheses were examined using the bootstrapping technique. Table 8 shows the path coefficients and their corresponding *p*-values; it also shows the standardized direct effect, indirect effect and total effect. In addition to illustrating the confirmation of our study's hypothesis. Based on Hair et al. (2014), a *p*-value that is less than 0.05 suggests a significant relationship.

The path analysis results suggested that:

For hypotheses: H1, H2 and H3:

For hypotheses (H1a<sub>1</sub>) and (H2a<sub>1</sub>), sensing ability in the direct path (c) has insignificant effect on vigor ( $\beta = .148, p > 0.05$ ) without the presence of the mediator in the model. However,

when the mediator role was introduced in the path (c') between sensing and vigor, the relation became positive significant relation ( $\beta = -.37, p < .01$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated full mediation role ( $\beta = -.26, p < .001$ ), nevertheless the relation became negative significant relation. Therefore, hypotheses H1a1 is not supported while H2a1 is supported. On the other hand, for hypotheses (H1a2) and (H2a2), sensing ability in the direct path to exhaustion showed insignificant effect on exhaustion ( $\beta = -.158, p > 0.05$ ), while the direct effect with the presence of the mediator showed negative significant relation ( $\beta = -.513, p < 0.001$ ). While the standardized indirect effect of the mediator (WLB) in the same path demonstrated full mediation role ( $\beta = .411, p < .01$ ), hence the relation became positive significant relation between sensing and exhaustion. Therefore, hypotheses H1a2 is not supported while H2a2 is supported.

For hypotheses (H1b<sub>1</sub>) and (H2b<sub>1</sub>), seizing ability in the direct path (c) has insignificant effect on vigor ( $\beta = -.047, p > 0.05$ ) without the presence of the mediator in the model. However, when the mediator role was introduced, the path between seizing and vigor (c'), the relation became negative significant relation ( $\beta = -.302, p < .05$ ). While the standardized indirect effect of the mediator (WLB) in the same path demonstrated full mediation role ( $\beta = .273, p < .001$ ), nevertheless the relation became positive significant relation. Therefore, hypotheses H1b<sub>1</sub> is not supported while H2b<sub>1</sub> is supported. On the other hand, for hypotheses (H1b<sub>2</sub>) and (H2b<sub>2</sub>), seizing ability in the direct path (c) to exhaustion showed negative significant effect on exhaustion ( $\beta = -.341, p < 0.01$ ), while the direct effect with the presence of the mediator path (c') showed insignificant relation ( $\beta = -.061, p > 0.05$ ). While the standardized indirect effect of the mediator (WLB) in the same path (ab) demonstrated partial mediation role ( $\beta = -.43, p < .01$ ), hence the relation became negative significant relation between seizing and exhaustion. Therefore, hypotheses H1b<sub>2</sub> and H2b<sub>2</sub> are supported.

For hypotheses (H1c<sub>1</sub>) and (H2c<sub>1</sub>), reconfiguring ability in the direct path (c) has insignificant effect on vigor ( $\beta = -.11, p > 0.05$ ) without the presence of the mediator in the model. However, when the mediator role was introduced, the path between reconfiguring and vigor (c'), the relation became negative significant relation ( $\beta = -.302, p < .001$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated full mediation role ( $\beta = .119, p < .001$ ), nevertheless the relation became positive significant relation. Therefore, hypotheses H1c<sub>1</sub> is not supported while H2c<sub>1</sub> is supported. On the other hand, for hypotheses (H1c<sub>2</sub>) and (H2c<sub>2</sub>), reconfiguring ability in the direct path (c) to exhaustion showed positive significant effect on exhaustion ( $\beta = -.187, p < 0.001$ ), while the direct effect with the presence of the mediator path (c') showed positive significant relation ( $\beta = .345, p < 0.001$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated partial mediation role ( $\beta = -.187, p < .001$ ), hence the relation became negative significant relation between reconfiguring and exhaustion. Therefore, hypotheses H1c<sub>1</sub> and H2c<sub>1</sub>, are supported.

As for H3, first H3a, sensing ability has a negative significant effect on WLB ( $\beta = -.504, p < 0.001$ ). Second, for H3b, seizing ability has a positive significant effect on WLB ( $\beta = .527, p < 0.001$ ). Third, for H3c, reconfiguring ability has a positive significant effect on WLB ( $\beta = .229, p < 0.001$ ). Therefore, hypotheses H3a, H3b and H3c are supported.

For hypotheses H4, H5 and H6:

H4: HRF is correlated to employee well-being such that HRF has a positive impact on EWB.

For hypotheses (H4a<sub>1</sub>) and (H5a<sub>1</sub>), HRPF in the direct path (c) has positive significant effect on vigor ( $\beta = .634, p < 0.001$ ) without the presence of the mediator in the model. However, when the mediator role was introduced in the path (c') between HRPF and vigor, the relation became positive significant relation ( $\beta = .642, p < .005$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated no mediation role ( $\beta = -.007, p > .05$ ), nevertheless the relation became insignificant relation. Therefore, hypotheses H4a<sub>1</sub> is supported while H5a<sub>1</sub> is not supported. On the other hand, for hypotheses (H4a<sub>2</sub>) and (H5a<sub>2</sub>), HRPF ability in the direct path (c) to exhaustion showed negative significant effect on exhaustion ( $\beta = -.395, p < 0.001$ ), while the direct effect with the presence of the mediator path (c') showed negative significant relation ( $\beta = -.407, p < 0.001$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated no mediation role ( $\beta = .011, p > .05$ ), hence the relation became insignificant relation between HRPF and exhaustion. Therefore, hypotheses H4a<sub>2</sub> is supported while H5a<sub>2</sub> is not supported.

For hypotheses (H4b<sub>1</sub>) and (H5b<sub>1</sub>), ESF in the direct path (c) has insignificant effect on vigor ( $\beta = -.083, p > 0.05$ ) without the presence of the mediator in the model. However, when the mediator role was introduced in the path (c') between ESF and vigor, the relation became positive significant relation ( $\beta = -.048, p > .05$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated no mediation role ( $\beta = -.02, p > .05$ ), nevertheless the relation is still insignificant relation. Therefore, hypotheses H4b<sub>1</sub> and H5b<sub>1</sub> are not supported. On the other hand, for hypotheses (H4b<sub>2</sub>) and (H5b<sub>2</sub>), ESF ability in the direct path (c) to exhaustion showed insignificant effect on exhaustion ( $\beta = -.257, p > 0.05$ ), while the direct effect with the presence of the mediator path (c') showed negative significant relation

( $\beta = -.311, p < 0.001$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated no mediation role ( $\beta = .032, p > .05$ ), hence the relation became insignificant relation between ESF and exhaustion. Therefore, hypothesis H4b<sub>2</sub> and H5b<sub>2</sub> are not supported.

For hypotheses (H4c<sub>1</sub>) and (H5c<sub>1</sub>), EBF in the direct path (c) has positive significant effect on vigor ( $\beta = -.378, p < 0.05$ ) without the presence of the mediator in the model. However, when the mediator role was introduced in the path (c') between EBF and vigor, the relation became insignificant relation ( $\beta = -.02, p > .05$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated partial mediation role ( $\beta = .397, p < .001$ ), nevertheless the relation became positive significant relation. Therefore, hypotheses H4c<sub>1</sub> and H5c<sub>1</sub> are supported. On the other hand, for hypotheses H4c<sub>2</sub> and H5c<sub>2</sub>, EBF ability in the direct path (c) to exhaustion showed insignificant effect on exhaustion ( $\beta = .007, p > 0.05$ ), while the direct effect with the presence of the mediator path (c') showed positive significant relation ( $\beta = .634, p < 0.001$ ). While the standardized indirect effect of the mediator (WLB) in the path (ab) demonstrated full mediation role ( $\beta = -.625, p < .001$ ), hence the relation became negative significant relation between ESF and exhaustion. Therefore, hypothesis H4c<sub>2</sub> is not supported while H5c<sub>2</sub> is supported.

First, for H6a, HRPF has an insignificant effect on WLB ( $\beta = -.014, p > .05$ ). Second, for H6b, ESF has an insignificant effect on WLB ( $\beta = -.039, p > .05$ ). Third, for H6c, EBF has a direct positive and significant effect on WLB ( $\beta = .766, p = 0.001$ ). Therefore, hypotheses H6a and H6b are not supported, while hypothesis H6c is supported.

For hypotheses H7:

H7: The control variables have a positive significant impact on EWB

For hypotheses (H7), among the control variables only 2 variables have significant relation with vigor. First, current position has positive significant relation with exhaustion ( $\beta = -.030, p < .01$ ). Second, company age also has negative significant relation with vigor ( $\beta = -.084, p < .01$ ). On the other hand, only 2 variables have significant relation with exhaustion. First, employee age has positive significant relation with exhaustion ( $\beta = -.030, p < .01$ ). Second, company age also has positive significant relation with exhaustion ( $\beta = -.026, p < 0.05$ ). Therefore, only hypotheses H7a and H7f are supported.

Table 9

*Testing the indirect effect in three steps*

	Vig		Ex	
	$\beta$	<i>P</i>	$\beta$	<i>P</i>
Step 1: control variables				
Age	-.014	.848	.041	.588
Gender	.050	.315	-.025	.621
Marital status	-.073	.232	.063	.314
Current position	-.227	***	.188	.004
Company size	.667	***	-.620	***
Company age	-.021	.789	-.064	.421
Step 2: independents variables and control variables				
Age	.013	.719	-.026	.387
Gender	.007	.748	.003	.873
Marital status	-.014	.610	.013	.577

Current position	-.057	.054	-.015	.557
Company size	.094	.024	-.057	.115
Company age	-.107	.004	.063	.052
Sensing	.148	.318	-.158	.216
Seizing	-.047	.760	-.341	.010
Rec	-.110	.094	.187	***
HRPF	.634	***	-.395	.003
EBF	.378	.048	.007	.967
ESF	-.083	.701	-.257	.168
Step 3: Mediation				
Age	-.023	.443	.030	.009
Gender	.009	.637	.005	.762
Marital status	.000	.992	-.009	.357
Current position	-.070	.006	.005	.621
Company size	.060	.095	-.004	.797
Company age	-.084	.009	.026	.038
Sensing	.373	.005	-.513	***
Seizing	-.302	.027	.061	.251
Rec	-.209	***	.345	***
HRPF	.642	***	-.407	***
EBF	-.020	.908	.634	***
ESF	-.048	.796	-.311	***
WLB	.518	***	-.816	***

---

*Note.* Bootstrapping procedure 5000 iterations with 95% confidence intervals around the estimates of the indirect effect. \*\*\* statistically significant at 0.001 level.



Table 10

*Results of Main Hypotheses*

Hypothesis			Direct without mediator		Direct with mediator		Indirect effect		Decision
H	Y ← X		Standardized Regression Weights	P	Standardized Regression Weights	P	Standardized Regression Weights	P	
H1	Vig	← sensing	0.148	0.318	0.373	0.005	-0.261	0.001	FM*
H2	Vig	← seizing	-0.047	0.76	-0.302	0.027	0.273	0.001	FM
H3	Vig	← Rec	-0.11	0.094	-0.209	***	0.119	***	FM
H4	Vig	← HRPF	0.634	***	0.642	***	-0.007	0.950	NM*
H5	Vig	← EBF	0.378	0.048	-0.02	0.908	0.397	0.001	PM*
H6	Vig	← ESF	-0.083	0.701	-0.048	0.796	-0.02	0.828	NM
H7	EX	← sensing	-0.158	0.216	-0.513	***	0.411	0.002	FM
H8	EX	← seizing	-0.341	0.010	0.061	0.251	-0.43	0.002	PM
H9	EX	← Rec	0.187	***	0.345	***	-0.187	0.001	PM
H10	EX	← HRPF	-0.395	0.003	-0.407	***	0.011	0.955	NM
H11	EX	← EBF	0.007	0.967	0.634	***	-0.625	0.001	FM
H12	EX	← ESF	-0.257	0.168	-0.311	***	0.032	0.840	NM

Note. \*\*\* statistically significant at 0.001 level

FM= full mediation NM= no mediation PM= partial mediation

## Summary

In this chapter, the results of the statistical analyses are presented. Initially, the descriptive analysis and correlations between variables are reported. Next, path analyses were conducted to test our proposed hypotheses that use WLB as a mediator variable in the relationships between the IVs: OA (sensing, sizing and reconfiguring), HRF (HRPF, ESF and

EBF) and the DV: EWB (vig and ex). The analyses took into account the control variables e.g., company size, company age, employee age, gender, marital status and current position. The results of the fit indexes show a good model fit. Finally, the results of the hypothesis tested in our study are reported in Table 10.

## **Chapter 6: Discussion, Implications, and Conclusion**

In this chapter, the results of our study are discussed in contrast with the literature relevant to the variables adopted in the hypothesized model and their constructs. Furthermore, the significance of the study and the implications for research and practice, along with the limitations of the study are also presented.

### **Summary of the Study**

The aim of this empirical study was to examine the presumption that organizational agility (OA) and human resources flexibility (HRF) have an influence on employee well-being (EWB) and whether work-life balance (WLB) plays a mediation role in this relationship or not. Therefore, the role of WLB as a mediator in illuminating any indirect relationships between OA, HRF and EWB is examined. The results of this study in general participate in providing evidence that WLB plays a significant mediation role in the relationship between OA and EWB, while contrary to prospects WLB does not act the same significant role in the relationship between HRF and EWB. Nevertheless, we observed a direct effect of HRF on EWB and a direct effect of WLB on EWB. This study is the first research that respond to Sherehiy and Karwowski (2014) proposition that strategic agility is expected to lead to heightening employee well-being and performance. This study was the trigger that stimulated the eagerness to explore OA-EWB relationship and fill this gap, specially there are no previous

research that examined this relation before, while there are plenty of researches already covered the impact of organizational agility on organizational and individual performance.

The results of this study deepen our understanding of the constructs of OA: sensing, seizing and reconfiguring based on dynamic capabilities theory, and their distinct role in developing the organizational agility capability particularly in VUCA world while still predict the employees' WLB, which in turn predicts the EWB. Similarly, HRF as an essential dynamic capability composed of three main constructs: HRPF, ESF and EBF and their distinct role in developing the organizational ability to respond to change while maintain the employees WLB and EWB. In this study, the JDRM was employed to portray the relationship between the variables adopted in our model. JDRM enabled us to detect the job demands and job resources incorporated in OA and HRF constructs and whether the job demands are challenging demands or hindrance demands to WLB and EWB. Moreover, the model allowed us to discover whether the job resources incorporated in OA and HRF constructs buffered the effect of the job demands on the WLB and EWB or not, while WLB as a mediator in our model is also considered as a job resource that buffers the effect of the job demands incorporated in OA and HRF on the EWB.

## **Discussion of Results**

OA is vital for the success and sustainability of organizations operating in dynamic and turbulent business environment, as for instance the ICT industry which is in the face of constant disruption and rapid changes. Similarly, HRF is an essential organizational dynamic capability that enables the organization to respond rapidly to unanticipated changes, by constantly adapting and realigning employees' knowledge, skills and behaviors to changes in the internal and external environment and ensure flexibility of human resources practices that participate

in attaining this goal. Therefore, the main research objectives were to examine whether OA constructs: sensing, seizing and reconfiguring, and HRF constructs: HRPF, ESF and EBF are predictors of EWB constructs: work engagement (vigor and dedication) and exhaustion, and whether WLB mediates this relationship to indirectly enable EWB prediction. EWB in our study was finally measured by vigor and exhaustion because the chi-square statistic for the variable 'dedication' did not meet the minimum acceptable standards and we had to remove the three items that measure 'dedication'.

Findings resulted from this study propose that the variables adopted in this study are identified with and participate significantly to construe employees work-life balance and well-being within the context of organizational agility and human resources flexibility in ICT industry. Prominently, the results exhibited that the fit indicators on the hypothesized model were adequately met. Firstly, we answered the first three research questions relevant to the OA and its relationship with WLB, EWB and the mediation role of WLB in OA-EWB relationship to predict EWB. The results revealed that WLB fully mediates the relationship between sensing capability and vigor, congruently WLB fully mediates the relationship between sensing capability and exhaustion. However, surprisingly, sensing capability has a negative significant relationship with WLB, which consequently led to negative significant indirect effect on the relationship between sensing capability and vigor. Similarly, due to the negative significant relationship between sensing capability and WLB, the mediation role of WLB led to positive significant indirect effect on the relationship between sensing capability and exhaustion. As for seizing and reconfiguring capabilities, the results revealed full mediation role of WLB in the relationship between the two constructs and vigor, while partially mediates the relationship between the two constructs and exhaustion. As hypothesized, seizing and reconfiguring capabilities separately have positive significant relationship with WLB, which consequently

led to positive significant indirect effect on the relationship between seizing and reconfiguring capabilities and vigor. Similarly, due to the positive significant relationship between seizing and reconfiguring capabilities and WLB, the mediation role of WLB led to negative significant indirect effect on the relationship between the two constructs and exhaustion. Therefore, this research answers the first three questions of this study and supported the hypothesis associated with the three questions relevant to organizational agility and its relationship with EWB and the mediation role of WLB. However, we will explain the reasoning underlying the results in the following sections.

As stated above these results are in line with the study hypothesis, WLB plays a mediator role in the sensing capability and EWB relationship, although the sign contradicts to what was claimed in chapter 3. As hypothesized, the relationship between sensing capability and vigor was supposed to be positive significant relationship while the results showed negative significant relationship. At the same time, the relationship between sensing capability and exhaustion was supposed to be negatively related, but the results showed positive significant relationship. Nevertheless, it is worth mentioning that the direct path (C') from sensing capability to vigor in the mediation model showed positive significant relationship between the two variables. Likewise, the direct path (C') from sensing capability to exhaustion in the mediation model showed negative significant relationship between the two variables. Here is an illustration to get a deeper understanding, the direct effect assesses the degree to which the dependent variable (outcome) alters when the independent variable (predictor) rises by one unit and the mediator variable rests unchanged. Conversely, the indirect effect assesses the degree to which the dependent variable alters when the mediator variable changes and increase by one unit which is relatively the degree of increase in the predictor variable.

To understand and demonstrate the reasoning behind the negative relationship between sensing capability and WLB, which consequently led to negative relationship between sensing capability and vigor and positive relationship with exhaustion, it is important to understand why the direct path (C') demonstrated positive significant relationship between sensing capability and EWB. It is also essential to comprehend why seizing and reconfiguring capabilities have positive significant relationship with WLB while sensing capability does not.

Primarily, developing the sensing capability, which is the first construct of organizational agility, requires relentless learning, gaining knowledge and capturing information from diverse sources in the organizational ecosystem and rapidly share internally the data collected, to make use of it and accelerate decision making in the seizing phase, then consequently taking action in the reconfiguring phase (Park et al., 2017; Teece et al., 2017). The development of this capability entails job demands for the employees to contribute in rapidly sensing opportunities or threats occurring in their business environment externally and internally. Thus, employees are expected to be proactive and explore the external business environment, acquire knowledge and competences (usually T-shaped skills), form robust network with concerned parties in the business ecosystem and share internally the knowledge acquired for exploitation to quickly sense any change, hence, facilitate and accelerate decision making in seizing opportunities (Felipe et al., 2019; Sherehiy and Karwowski, 2014).

Consequently, due to the significance of the sensing capability as the actions and decisions that must be taken in the seizing and reconfiguring phases are dependent on the outputs of the sensing phase (Teece et al., 2017), it is likely that time pressure and workload inferred from the job demands required to develop the sensing ability of the organization, could be surpassing the job resources (contextual and personal resources) provided to fulfill all the

job demands. It could also occur if the job resources did not buffer the effect of the job demands, especially when it is a permanent race against time to remain competent, knowledgeable, maintain robust network internally and externally while instantly acting on data and information gathered during this phase for subsequent exploitation. This reasoning is deduced from the dynamic capability nature of organizational agility which demands rapid and constant development of the organizational agility capabilities, at the same time the relation between the three constructs of organizational agility and WLB and EWB is elucidated through JDR model in our study because developing organizational agility capabilities incorporates job demands and job resources, also WLB in research is considered as a resource that buffers the negative influence of the prejudicial consequences of exceeding or hindrance job demands (Bakker and Demerouti, 2017; Haar et al., 2019; Ten Brummelhuis and Bakker, 2012). Consequently, Haar et al. (2018) stated that WLB can augment despite the increase in job demands, as long as job resources are sufficient and high enough. However, in our case, the results showed low WLB and this indicates that the job demands exceeded the job resources provided or the job resources could not buffer the detrimental effect of the job demands on WLB. Moreover, according to extant research, low WLB is negatively association with work engagement and positively associated with exhaustion (Haar et al., 2019; Niessen et al., 2018; Ten Brummelhuis and Bakker, 2012) and this indicates that our results are consistent with these studies. This is due to the fact that WLB is considered as job resources and if there is deficiency in WLB this indicates that the job resources provided by the organization are not sufficient enough to buffer the effect of job demands on EWB particularly in the absence of WLB as an essential resource. Generally, job resources are positively associated with work engagement while job demands are positively associated with exhaustion, therefore, this result demonstrated that low WLB is negatively associated with work engagement and positively associated with exhaustion.

Moreover, research built on JDR model explain the relationship between job demands and job resources, and their effects on WLB and EWB, perceptibly emphasized the detrimental influence of job demands on WLB and EWB when there are misfits between job demands and job resources (Bakker and Demerouti, 2007; Bakker and Demerouti, 2017; Haar et al., 2019; Voydanoff, 2005). From the JDR perspective, extant research proclaimed the negative relationship between job demands and WLB, and how low WLB reduces work engagement and increases exhaustion (Haar et al., 2019; Kossek et al. 2014). This finding appears to be the appropriate justification for our results, nevertheless, if we look at it from a holistic perspective, we will find out that sensing capability incorporates job demands that are relevant to constant personal growth, networking, collaboration and information collection, in addition to jobs and processes designed to reinforce experimentation, exploration and knowledge sharing. In return, agile organizations provide job resources at the employees' disposal to fulfill the main purpose of the job demands, which is rapidly sensing opportunities or threats in the business environment before rivals and before hitting the organization. The job resources declared to attain this purpose are autonomy, social support including leaders and colleagues, constant KSA development incorporating constant developing and reinforcing employees' proactivity, adaptivity and resilience to relentlessly be motivated to explore and scan the market for opportunities or threats.

Considering these inputs, it could be noticeable that the job demands are actually challenging demands not hindrance. They are essential and conceivably inevitable duties to develop the organizational agility capabilities and at the same time ensure constant employees' agility development. The evidence that these demands are challenging demands, the fact that the direct path (C') in the mediation model from sensing capability to vigor shows positive



significant relationship ( $\beta = .37$   $p = .005$ ). Similarly, the direct path (C') in the mediation model from sensing capability to exhaustion shows negative significant relationship ( $\beta = -.51$   $p < .001$ ). This result demonstrates that developing the sensing capability does not have a negative effect on work engagement and is not a burden or hindrance to achieving work engagement. It also demonstrates that developing the organizational sensing capability did not lead to employee exhaustion and it is not hindrance demands that could result in amplifying exhaustion. On the contrary, the results showed positive significant relationship between sensing capability and work engagement, and negative significant relationship between sensing capability and exhaustion even without considering the WLB mediation role as an additional job resource that is supposed to abate the demands of developing the organizational sensing capabilities. This means that the exploration phase of developing the organizational agility capabilities and all what it encompasses from learning, KSA development, networking, collaboration and information sharing which shaped the employee's creativity and innovation, in addition to social support (leader and peers' support), specifically the leader's support coupled with autonomy and trust to foster their proactive behavior for exploration, all this made an important contribution to maintain high employee engagement and diminish exhaustion. Accordingly, this is consistent with several studies highlighting that challenging job demands need energy but encompass prospective gains and benefits, and associated with motivation, especially when these demands entail personal growth, learning and development (Bakker and Sanz-Vergel, 2013; Crawford et al., 2010; LePine et al., 2005; Schaufeli and Taris, 2014; Van den Broeck et al., 2010). Consequently, the challenging demands together with the job resources led to the direct path (C'), which demonstrated a positive significant relationship between sensing capability and EWB.

Conversely, the same challenging job demands and job resources led to the negative relationship between sensing capability and WLB, which indicates that job demands incorporate specific demands related to developing the sensing capability and these demands were not compensated or buffered by the job resources and at the same time these specific demands are negatively associated with WLB. However, observing the other two constructs of organizational agility in this study, precisely contrary to sensing capability they have positive significant relationship with WLB, so by comparing sensing capability to seizing and reconfiguring capabilities, the main difference is that sensing capability is considered to be the exploration phase to rapidly detect any opportunities or threats in the business environment, while seizing and reconfiguring capabilities are mainly the exploitation phase to rapidly respond to the signals detected in the sensing phase. Therefore, the negative relationship could be due to time pressure and energy exerted to explore and detect all the signals that enable the organization to anticipate change. Moreover, by realizing the difference between the purposes of organizational agility constructs, and the variance in their relationship with WLB led us to attentively contemplate the difference between exploration and exploitation at the individual level or as known in the literature ‘individual ambidexterity’.

Consequently, the other probability that led to the negative relationship between sensing capability and WLB could be relevant to individual ambidexterity. Individual ambidexterity is the individual’s capacity to perform both exploration and exploitation activities and uncover interactions between both of them (Mom et al., 2009; Rogan and Mors, 2014). Some of the challenges emphasized in the literature regarding individual ambidexterity are the conflicting nature of the demands between the two activities as they are considered two contradictory activities (Rosing and Zacher, 2017; Yu et al., 2018). Moreover, the imbalance in time and energy allocated for each activity (Keller and Weibler, 2015). For example, Gibson

and Birkinshaw (2004) explained and used the term employees could be excessively ‘stretched’ due to this imbalance between the two activities. This point of view is in line with WLB research, as several studies previously indicated the negative influence of time pressure and workload on WLB, especially if the resources provided could not buffer the impairment effect of job demands (e.g., Haar, 2013; Haar et al., 2019; Niessen et al., 2018; Nikolova et al., 2014). Nevertheless, the challenge here is not juggling and switching rapidly between the two activities (explorational and exploitation) as argued in some of the individual ambidexterity research (e.g., Cushenbery and Jayne, 2017; Keller and Weibler, 2015), because despite the fact that seizing and reconfiguring capabilities development (exploitation) entails work restructuring and tasks changing as a response to the output of sensing capability (exploration), our results demonstrated positive significant relation between seizing and reconfiguring capabilities and WLB. Therefore, the problem is in the time allocated to perform both activities and most probably the exploration phase (developing the sensing capability) requires more time and energy from the employees than the exploitation phase (seizing and reconfiguring capabilities). Accordingly, the job resources relevant to time factor needs to fill this gap. Interestingly, Spotify company created their model to develop its organizational and individuals’ agility, emphasized the prominence of allocating time for exploration when employees do nothing but this activity in a pressure-free manner and they call it ‘hack days’ (Smite et al., 2019). Additionally, a British company called ‘Moonpig’ adopted the Spotify model but introduced some modifications and adjustments to the model to fit with their organizational context. However, they also allocated time for exploration and called it ‘slack time’.

Therefore, the logical reasoning behind the negative relationship could be due to the time and energy needed during the exploration phase because it is the phase of intense learning,

gaining knowledge, experimentation, strengthening ties with parties in business ecosystem, information and data collection, then ultimately transmitting internally all the information and data collected for analysis and decision making. This logical reasoning is consistent with previous work by Haar (2013), Haar et al. (2019), Niessen et al. (2018), and Nikolova et al. (2014). In-depth examination of individual ambidexterity could be considered for future research endeavors and its moderation effect in the relationship between organizational agility and WLB. Individual ambidexterity research proposed three approaches to reconcile the conflicting effect of the two activities; first, individual structural approach where individuals are specialized in either exploration activity or exploitation, and second, the sequential approach where individuals are involved in both activities consecutively and the contextual approach where individuals are pursuing both activities simultaneously (Caniëls and Veld, 2019; O'Reilly and Tushman, 2013; Raisch and Birkinshaw, 2008). Bledow et al. (2009) stated that ambidexterity is the individual's ability to execute contradictory actions and alter between different mindsets and action sets. There are arguments on whether employees need to divide their time between the two activities equally, or perform them sequentially to be able to switch between two different modes as each mode requires different human attention (Keller and Weibler, 2015; Laureiro-Martínez et al., 2015). Nevertheless, the optimal state is to perform both activities simultaneously taking into account attaining balance between the two activities (Mom et al., 2018; Rosing and Zacher, 2017).

Regarding seizing and reconfiguring capabilities, the two capabilities in our results showed positive significant relationship with WLB, which subsequently led to the positive significant relationship with vigor, and negative significant relationship with exhaustion, where WLB played mediator role in this relationship. As explained earlier, seizing and reconfiguring capabilities are the exploitation or the response to the opportunities or threats captured, and the

knowledge and information gained in the sensing phase. Consequently, the response would certainly compel rapid and efficient decisions and actions, which result in inevitable changes in work structure, job tasks and responsibilities, besides quick mobility of employees from task/project/team to another. In short, due to the dynamic capability nature of agility, employees will be confronted with constant changing job demands and employees are required to make rapid decisions and flexibly adapt to change, henceforth, developing the two capabilities requires employees' agility (proactivity, adaptability and resilience) to be able to handle job demands incorporated in the two capabilities. The job demands incorporated in organizational agility capabilities development are challenging because several studies have shown negative effect on WLB as such job demands mentioned above are considered job stressors (Carvalho and Chambel, 2014; Greenhaus et al., 2003; Lunau et al., 2014). However, in other studies these same job demands contribute in developing and heightening the employee's agility, consequently develop the personal resources (Caniëls and Baaten, 2019; Cooper et al. 2014; Park et al., 2017; Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). Besides, the job resources provided (contextual resources) were adequate and sufficient to qualify employees to fulfil their job demands, the results showed positive effect on WLB (Bakker and Demerouti, 2017; Haar, 2013; Haar et al., 2019).

Therefore, the essential job resources (contextual and personal) provided enable the employees to proactively take actions, such as autonomy, control, involvement in decision making, job crafting, social support in addition to the competences developed during the exploration phase were sufficient to buffer the challenging job demands effect on WLB, consequently led to the positive significant relationship. This is consistent with the previous work of several studies on the relationship between WLB and similar job resources which are fundamental to develop seizing and reconfiguring capabilities such as job crafting, autonomy,

control, involvement in decision making, social support and KSA development (Bakker and Demerouti, 2017; Haar, 2013; Haar et al., 2019; Kossek et al. 2014; Talukder et al., 2016; Tims et al., 2012; Van Wingerden et al., 2017). The mediation effect of WLB in the relationship between the two capabilities and EWB is consistent with the fact that WLB is considered itself as a resource that buffers the detrimental effect of job stressors, which promote work engagement and reduce exhaustion (Emre and De Spiegeleare, 2019; Haar, 2013; Moloney et al., 2017; Russo et al., 2016; Wagner et al., 2014; Zheng et al., 2015).

Overall, our results demonstrated the mediation role of WLB in the relationship between organizational agility capabilities and EWB. The first three research questions relevant to organizational agility were answered and hypothesis H1, H2 and H3 are supported.

Secondly, the study answered the remaining three research questions relevant to the HRF and its relationships with WLB, EWB and the mediation role of WLB in HRF-EWB relationship to predict EWB. Since to our knowledge there are no previous work on the relationship between HRF, WLB and EWB, also the previous work on HRF generally covered the effect of HRF on performance or acted as a mediator between certain bundle of HR practices and performance, this study covered all the previous work on HRF and its constructs to uncover the factors that may have contributed to these results. In addition, the JDR model facilitated justifying this relationship through the job demands and resources associated to the concerned variables adopted in this study. The main challenge was to justify why HRPF and ESF showed to have no significant relationships with WLB while EBF has. Moreover, why EBF only showed to have desirable relationship with vigor and exhaustion through the mediation role of WLB, while the relationship was undesirable without the mediation effect of WLB. Furthermore, why HRPF and ESF showed to predict EWB without the mediation effect

of WLB. It is discernable that WLB plays essential role in predicting EWB in the relationship EBF-WLB-EWB because EBF incorporates job demands and job resources which are not enough to predict EWB without the buffering role of WLB to eliminate the detrimental effect of the job demands necessary for generating employee's behavior flexibility. It is essential to predict high WLB to eventually predict EWB particularly in EBF case but not in HRPF and ESF. Linking the main purposes of HRF, the job demands and resources associated to it with the results of others, will help uncover the confounding factors that led to results that contradict with what was posited in chapter III.

The main purposes of HRF due to the dynamic capability view, are to continuously develop the employee's flexibility, foster their capabilities to handle constant new challenges and changing job requirements, while at the same time, HRF involves motivating and empowering employees to display flexible behaviors to proactively tackle any new unacquainted challenges. These practices ultimately amplify the organizational flexibility and responsiveness to change in dynamic or turbulent business environment (Luu, 2019; Úbeda-García et al., 2017). This consequently compels flexible HR practices that keep the employees' knowledge, skills and abilities constantly enriched and aligned with any organizational changes. The main job demands associated with HRF are employees' readiness to rapidly acquire new KSAs and at the same time find alternative usage of these KSAs by which they can effectively and rapidly handle new unfamiliar job demands. Nevertheless, the job resources encompass contextual and personal resources, where contextual resources involve employees' personal growth, KSA development, and renewal, providing opportunity for the employees to exploit their KSA timely and liberally, while keeping the employees motivated and empowered to utilize their KSA and personal resources in response to change (Beltrán-Martin and Roca-Puig, 2013; Camps et al., 2015; Ketkar and Sett, 2010). Whereas, personal resources are not

limited to the employees' KSA, but also their proactive personality, coping ability and positive PsyCap, which are recognized to be malleable and developable resources and that require continuous maintenance and stimulation from the organization (Avey et al., 2009; Kossek and Perrigino, 2016; Kuntz et al., 2017; Liu et al. 2016; Luthans et al., 2013; Vera et al., 2017; Xanthopoulou et al. 2009).

Nevertheless, employees will not display desirable behaviors or use their personal resources unless they benefit from the favorable conditions that foster their behavior flexibility. Consequently, HRPF as demonstrated previously is concerned with and focused on developing the employee's flexibility to heighten employees' adaptation to change through the provision of essential contextual resources and fostering employee's personal resources. Besides, these HR practices are flexible to change, to ensure constant alignment and renewal of the employees KSA. Accordingly, the main focus is qualifying the employees to proactively respond to opportunities or threats the organization might face while rapidly adapt to the consequences resulting from change, which emphatically will lead to changing job demands, tasks and responsibilities (Ketkar and Sett, 2010; Úbeda-García et al., 2017; Way et al., 2015). Therefore, as declared by Beltrán-Martín and Roca-puig (2013) results, HRPF play a significant role as constitutional mechanism that develop the employees' flexibility (ESF and EBF) and keep them aligned with any strategical changes, nevertheless ESF is a prerequisite and an essential element based on which employees feel comfortable and confident to demonstrate their behavior flexibility.

Hence, it is comprehensible that in comparison to what was uncovered in the organizational agility section henceforth endorse this idea, HRPF implications for KSA development and employees' motivation to display desirable behaviors in response to change,



are concerned with opportunity provision to learning and acquiring wide range of skills and knowledge, augment the employees' continual exposure to new situation and new challenges (Beltrán-Martín and Roca-puig, 2013; Camps et al., 2015; Ketkar and Sett, 2009, 2010; Sanyal and Sett, 2011). In short, HRPF strengthens and stimulates employees adaptive and proactive behaviors, KSA acquisition, and flexibility (Luu, 2019; Tracey, 2012; Úbeda-García et al., 2017). Consequently, as revealed earlier when the results showed that sensing capability has negative relationship with WLB, while having a positive significant relationship with EWB without the mediation effect, it is reasonable that the development and exploration phase requires devoting more time and energy which does not permit WLB prediction as expected, especially if there is imbalance between the exploration and exploitation phase or if both are performed simultaneously. This is exactly the case as shown in our results where HRPF and ESF has no significant relationship with WLB while still have positive significant relationship with EWB, while EBF has positive significant relationship with WLB which enabled EBF to eventually predict EWB. Accordingly, it is nonetheless essential to explore the individual ambidexterity moderation effect in this relationship as well as the organizational agility because employees will not be able to demonstrate behavior flexibility unless they are competent and qualified to handle their job demands in addition to continuous development and fostering to their personal resources which ultimately allow them to have robust control over their work and life.

This reasoning outwardly contradicts extant research that emphasized the positive influence of HR practices similar to HRPF incorporated in HRF on WLB, because HRPF in order to foster employee flexibility, jobs are designed to promote flexibility, where the job characteristics entail autonomy, control, skill variety, task diversity, performance appraisal and feedback, accordingly employees can continuously learn and gain new KSA, while at the same

time they are benefiting from the opportunity to discretionary manage their work (Beltrán-Martin and Roca-Puig, 2013; Jiang et al., 2012; Luu, 2019; Tuan, 2016; Úbeda-García et al., 2017). However, Beltrán-Martin and Roca-Puig (2013) and Úbeda-García et al. (2016) emphasized that ESF is an antecedent of EBF, employees might have the eagerness to display flexible behavioral repertoire but do not have the pertinent skills and knowledge to actually display EBF and handle challenging situations. Therefore, HRPF develop employee flexibility but primarily develop the employees' KSAs to foster their ability to display EBF, which is the observable behavior employees demonstrate in handling and responding to challenging and novel situations. Consequently, it is reasonable that HRPF and ESF develop EBF, by which employees can confidently display flexible behavior repertoire that enable them to properly handle their work and life requirements and achieve the desired balance between them according to their priority in life from their perspective. This explains why HRPF and ESF have no significant relationship with WLB, while EBF has positive significant relationship with WLB. Moreover, attaining satisfactory WLB enabled EBF to have positive significant relationship with vigor, while having negative significant relationship with exhaustion. Therefore, WLB played as proclaimed in this study the mediation role between EBF, vigor and exhaustion, which endorse the notion that WLB in its own acts as resources that buffer the detrimental effect of challenging job demands (Bakker and Demerouti, 2017; Emre and De Spiegeleare, 2019; Haar et al., 2019; Kossek et al. 2014).

The results also revealed that HRPF has positive significant relationship with vigor, while having a negative significant relationship with exhaustion. However, ESF has no significant relationship with vigor, but has a negative significant relationship with exhaustion. This result is indirectly consistent with previous work of Guest (2017) and Cooper et al. (2019), as there are similarities when comparing HRPF that develops employees' flexibility with well-

being. As stated in chapters II and III, HRPF does not only entail KSA constant development and regeneration, but also incorporates employees' motivation and empowerment to display proactive, adaptive and resilient behaviors (Way, 2018). Despite the fact that employees are expected to respond rapidly and effectively to changing job demands, HRPF simultaneously provides contextual resources and relentlessly improves personal resources that qualify the employees to respond to their job demands. Consequently, HRPF reduces exhaustion and increase work engagement particularly when providing interesting, meaningful and challenging job tasks that eliminate routinized work and instead offers intrinsically satisfying work (Rubenstein et al., 2017). Moreover, the combination of the job demands and job resources incorporated in HRPF increase employee role-breadth self-efficacy due to increased sense of responsibility, improved competencies and autonomy in planning and controlling work (Camps et al., 2015; Úbeda-García et al., 2017; Way et al., 2015, 2017, 2018).

Overall, our study results demonstrated the mediation role of WLB in the relationships between EBF capabilities and EWB (vigor and exhaustion). However, contrary to expectations, HRPF and ESF are not significantly related to WLB. The results also revealed direct positive significant relationship between HRPF and EWB, while ESF has no significant relationship with vigor, but is negatively and significantly related to exhaustion. Therefore, this study also answered the remaining three research questions relevant to HRF and hypothesis H4a1, H4a2, H4b2, H5c1, H5c2, and H6c are supported. However, H4b1, H4c1, H4c2, H5a1, H5a2, H5b1, H5b2, H6a, H6b are not supported.

## **Significance of the Study**

This study has several strengths and provides valued contribution to research and practice. The study intended to make five significant contributions. First, the research aimed to explore and examine novel area in research that has not been explored up until now according to our knowledge. Principally, previous research performed on organizational agility usually covered the relationship between organizational agility capabilities and organizational performance, employees' performance, or linking strategic agility with workforce agility by shedding lights on practices that develop workforce agility as an essential enabler of organizational agility. Nevertheless, to date no research has examined the relationship between organizational agility capabilities, workforce work-life balance, and employee well-being. This was the main trigger specifically since it is well-established in research since the early 90s that organizations adopt strategic agility and seek to become agile organization in order to face either dynamic or turbulent business environment at the first place, where the change pace is fast and unpredictable.

Second, this research is built on dynamic capability theory and JD-R model, which enabled associating the dynamic capability nature of organizational agility and HRF that require constant, rapid and effective improvement, generating and regenerating of resources, and the job demands and resources. This link led to uncovering the determinants and antecedents of both organizational agility and HRF, the strategies and practices implemented to maintain both dynamic capabilities while exploring the consequences by examining the relationships between the two independent variables and work-life balance and employee well-being.

Third, this study responds to Sherehiy and Karwowski's (2014) proposition that strategic agility is expected to heighten employees' well-being by examining the relationship between organizational agility and employee well-being. Also, this study considers Charbonnier-Voirin's (2011) suggestion that organizational agility might predict employee well-being. Moreover, by justifying the reasoning behind the unsupported hypothesis in this study as explained in the previous section, we attempted to provide proposition for future exploration in research which will be clearly stated in the implication for research section.

Fourth, this study aimed to demonstrate that the practices and strategies incorporated in organizational agility capabilities do not contradict with employees work-life balance and employee well-being. However, contrary to expectation, the same strategies and practices can be adopted to develop the organizational agility capabilities and at the same time predict employees work-life balance and employee well-being when properly implemented. We will share our recommendations for managers in the implications for practice section.

The findings of this study illustrated that within the context of dynamic business environments such as ICT industry, where the business is confronted with frequent disruption and rapid unpredicted changes, organizations can develop and maintain their organizational agility capabilities while providing an opportunity for employees to preserve adequate work-life balance, which ultimately acts as a job resource that reduces exhaustion whilst increases work engagement. Nevertheless, the findings also showed that sensing capability had inverse effect on work-life balance than the seizing and reconfiguring capabilities, hence drawing attention to the difference between the exploration and exploitation aspect of the three constructs of organizational agility. At the same time, the findings demonstrated that even though sensing capabilities had inverse relationship with WLB, employees can remain engaged

at the workplace and do not encounter exhaustion due to the meaningfulness of their work and the resources provided, including constant fostering for their personal growth and personal resources.

Accordingly, this led us to an assumption that individual ambidexterity needs to be considered in this relationship as it could support employees to balance between both activities especially, they are two contradicting activities. Research in organizational ambidexterity and individual ambidexterity propose several solutions for this and it is essential to explore this area in the future. For instance, it is important to boost the employees' dynamic decision making ability to achieve ambidexterity either simultaneously or rapidly sequential to be able to flexibly switch between the two different modes (exploration and exploitation) in rapidly changing business environment because the two contradicting activities are cognitively challenging for employees to reconcile and achieve the balance between them (Eisenhardt et al., 2010; Good and Michel, 2013; Smith et al., 2010). Therefore, it is essential to develop the three constructs of individual ambidexterity which are: divergent thinking, cognitive flexibility and focused attention for the employees to be able to manage between the two contradicting activities and foster the individual cognitive capacity to malleably adapt in a dynamic context by aptly alternating between exploration and exploitation according to what they deem suitable, by not getting disturbed by too much information in the scanning phase and by focusing attention on what they already know and act on it. Papachroni and Heracleous (2020) proposed three paradoxical practices that are claimed to boost individual ambidexterity to cycle between exploration and exploitation and foster individuals' ability to handle conflicting demands. The three paradoxical practices are: a) engage employees in hybrid tasks that require to undertake dual goals, b) perform tasks in a way that exploits accumulatively on foregoing learning, and

c) embracing a mindset of pursuing interactions between the challenging demands of exploration and exploitation.

As for HRF, the findings demonstrated that HRPF and ESF have no significant relationships with WLB, while EBF has positive significant relationship with WLB. This result indirectly confirms what was revealed in the organizational agility relationship with WLB. As HRPF's and ESF's main focus is on developing the employees' flexibility and aligning their KSA with the strategic changes to boost the organizational flexibility, employees can be able to display their flexible behavioral repertoires and confidently utilize their competences to behave in a way that qualify them to attain the balance between their work and personal life. These are again the notions of exploration and exploitation or the competences building phase and the confidence to actually react. Moreover, this idea was triggered due to the previous work by Beltrán-Martin and Roca-Puig (2013) and Úbeda-García et al. (2016) who asserted that HR practices develop employees' ESF which in turn act as antecedent of EBF. Moreover, the results also revealed that HRPF and ESF can predict work engagement and exhaustion even without the mediating role of WLB and that was recognized through taking into consideration the job demands and resources incorporated in HRPF and ESF which showed to directly predict work engagement and exhaustion. Nevertheless, EBF could not predict work engagement and exhaustion without the mediation role of WLB which acts as a vital job resource in this relationship that buffers the adverse job demands effect.

In general, the current study focuses on organizational agility, HRF, work life balance and employee well-being specifically in ICT industry. Usually, the focus is on technology and related topics without considering the implication of organizational agility context on the employees' work-life balance and their well-being. The model was built on dynamic

capabilities theory and JD-R model to uncover the job demands and resources associated with developing organizational agility and their consequences on workforce in agile organizations who are constantly confronted with uncertainty and unpredictability of the change that result in constant changing job demands. The nature of such organizational business environment is a stressful working environment, while our results demonstrated the opposite. Moreover, this is the first study to date that examines the mediating role of WLB in the organizational agility model and how WLB played a significant role in predicting work engagement and exhaustion in agile context.

### **Implications for Research**

This research has significant implications for the literature on strategy management and HRM. As it is the first study that investigates the relationship between organizational agility, human resources flexibility and work-life balance and employee well-being based on dynamic capabilities theory and JDR model. This study paves the way for researchers to delve into the discovery of the relationships between the variables adopted in our model, particularly in VUCA business environment, where organizations often find itself compelled to compromise on employees' wellness and work-life balance for performance. A corollary of this is that future research could examine more directly the antecedents and determinants of organizational agility and human resources flexibility constructs, together with their distinct consequences to identify more specifically which practices/job demands/job resources enacted in the literature that directly related to stimulating employee well-being and work-life balance, as well as the inevitable practices/job demands/job resources necessary to develop the organizational dynamic capabilities yet resulted in work-life imbalance and debilitated employee. This will therefore help to find solutions that do not contradict with developing the organizational agility,



while maintaining adequate level of work-life balance and employee well-being without compromise.

Conventionally based on dynamic capabilities theory, developing the organizational dynamic capabilities is essential in diverse contexts but undoubtedly of additional significance in rapidly unpredicted changing business environment (Helfat and Winter, 2011; Prange and Verdier, 2011). As a result, dynamic capabilities theory is principally pertinent to developing organizational agility capabilities and human resources flexibility as it provides robust mechanisms to constantly sense changes, seize opportunities, reconfigure and develop their resources in response to change. Several theoretical implications arise from this evidence that warrant further examination and exploration.

The findings showed the difference in the relationship between the three organizational agility constructs and WLB, which led us to assume that this could be due to the difference between exploration and exploitation activities. Moreover, this assumption is possibly reasonable because it is also shown in the results that HRPF and ESF have no significant relationship with work-life balance while EBF has positive significant relationship with WLB. The contradicting demands between exploration and exploitation caught our attention to the importance of developing not only employees' flexibility but also their cognitive flexibility which is the employees' ability to switch between two contradicting activities simultaneously or rapidly sequential without collapsing. Therefore, for future research it would be valuable to consider paradox theory to examine individual ambidexterity in agile context.

Besides, it is also possible to consider the organizational level of agility and its effect on the employees WLB and employee well-being, as Worley et al. (2014) argued about

building agile organization and the assessment tool utilized to measure the level of the organizational agility. This is something that could be considered for future research, measuring the level of organizational agility and to what extent this could result in different range of practices, while considering their influence on WLB and employee well-being.

For illustration, this research shed the light on the relationship between dynamic capabilities development, the associated job demands and resources essential to develop these capabilities and their consequences on employee well-being and work-life balance. This method has an imperative implication for investigating dynamic capabilities, in particular, due to the fact that human resources are essential enabler of the organizational dynamic capabilities. Therefore, it was axiomatic to build our model based on dynamic capabilities theory and JDR model. According to previous research built on dynamic capabilities theory, it is demonstrated that dynamic capabilities are supposed to create value enabling the organization to retain sustainable competitive advantage in a highly dynamic business environment over time (Teece, 2007, 2014). Dynamic capabilities accentuate the organizational capacity to retain its human resources aligned with business strategic needs by ensuring constant resources development, adaptation and reconfiguration, allowing the organization to sense and respond to market unpredictable rapid changes (Teece, 2012). Accordingly, no negative consequences on human resources are expected while developing the organizational dynamic capabilities or at least was not previously considered, especially, the main purpose of dynamic capabilities is to equip the employee with the necessary resources, and confront them with challenging demands that stimulate their creativity and innovation (Helfat and Peteraf, 2015). However, in contrast to dynamic capabilities theory, our findings demonstrated that not all the three constructs of organizational agility have positive consequences on human resources. Similarly, human resources flexibility as a dynamic capability that support in constantly developing and

renewing employee's KSA to keep them aligned and adapted to change, showed in our results to have partial negative consequences on employee WLB and EWB. As not all the constructs of HRF turned to have positive relationship with WLB and EWB as proclaimed in our hypothesis.

In contrast with dynamic capability theory, sensing capability the first competency of organizational agility appeared to have negative relationship with WLB. This is due to the focus of dynamic capability theory-based research on the firm level capabilities and ignoring the micro-level factor portrayed in human resources and the projected consequences of developing the organizational dynamic capabilities on them. The negative relationship between sensing capability and WLB in our opinion contradicts with the main purpose of dynamic capability theory which is attaining sustainable competitive advantage, as it is impossible if the human factor the main enabler of dynamic capabilities is worn out or unable to attain balance between their work and life. Specifically, according to JDR model, WLB is an essential job resources that buffers the detrimental effect of job demands which eventually lead to increased work engagement and reduced exhaustion. Therefore, consistent with JDR model theory, the negative relationship between sensing capability and WLB, lead to negative mediation role of WLB between sensing capability and EWB, as WLB failed to buffer the detrimental effect of the job demands associated to developing sensing capability.

Nevertheless, our results regarding the other two constructs of organizational agility (seizing and reconfiguring) are consistent with dynamic capability theory as employee participation in developing the seizing and reconfiguring capabilities didn't hinder attaining satisfactory balance between work and life. This is also consistent with JDR model, because in this relationship the positive relationship between the two constructs of organizational agility

and WLB enabled WLB as a job resource to predict EWB and buffer the detrimental effect of the job demands associated to developing the organizational seizing and reconfiguring capabilities.

Moreover, consistent with JDR model, employee discernment that the envisioned purpose of HRF is in reflect challenging demands that contribute in fostering employee competences and abilities. At the same time, job resources which are supposed to be sufficient resources that enable the employee to fulfil the job demands associated with developing organizational dynamic capabilities. All this ultimately resulted in higher level of employee well-being specially with the presence of WLB as a mediator in this relationship as an essential resource that buffers the negative influence of the job demands. However, not all the constructs of HRF proved to have such influence, as HRPF and ESF have no significant relationships with WLB and that also contradict with dynamic capabilities theory. This contradiction stems from the fact that dynamic capability theory urges constant development and renewal of the employee's KSA, equip them with essential competences and resources to keep them aligned with any changes in the job demands relevant to developing the organizational dynamic capabilities. The core resources that are tacitly consistent with this aim are job autonomy and control, which are supposed to provide liberty to manage by their own discretion. Hence, employees have the freedom to organize and manage between professional and personal life in accordance with their own assessment. Nevertheless, EBF showed consistency with dynamic capabilities theory as it led to positive consequences which ensures sustainability in attaining strategic competitive advantage.

In short, building our model based on dynamic capabilities theory and JDR model enabled us to discover the shortcoming of ignoring the micro-level factor of dynamic capability

portrayed into human resources and the job demands associated to developing the organizational dynamic capabilities that could hinder attaining sustainable competitive advantage. This is due to the negative consequences that are detrimental and hindrance to achieving WLB and EWB. As highlighted earlier, the three constructs of dynamic capabilities in organizational agility could be divided into two main elements: exploration and exploitation. Similarly, in HRF, HRPF and ESF main purpose is exploration and competences development while EBF is mainly displaying or exploiting the knowledge acquired and behaving in a way that enable the organization to respond to the sensed change in the exploration phase. This in turn requires not only developing employee KSA but also employee individual ambidexterity which is a key factor in handling paradoxical job demands. In our case the paradoxical demand of the exploration and the exploitation activities. They are known in research as the conflicting job demands which in turn could cause the negative consequences generated from developing the organizational dynamic capabilities. Therefore, based on our study results, we suggest that future research could consider paradox theory while examining the effect of dynamics capabilities associated job demands and resources on human resources WLB and employee well-being. Accordingly, we see a compelling need for future research on the variables adopted in our model yet considering the moderation role of individual ambidexterity in this relationship.

### **Implications for Practice**

For managers, this research provides direction regarding the benefits of adopting strategic agility, focusing on the practices in the literature that develop the organizational agility capabilities and at the same time shown to lead to satisfactory work-life balance and employee well-being. Agile organization's main purpose is to constantly remain competitive

through attributes such as proactivity, competency, innovation, adaptability, flexibility, speed, profitability, productivity, culture of change, quality, learning and knowledge management, which necessitate attracting and retaining agile workforce and providing all the means that nurture their agility. This starts with the organizational agility enablers: first, the organizational structure adopted by agile organizations has organic structure features, flatter or horizontal or networked or virtual structure. Hence, such structure encourages decentralization, less hierarchal levels, low formality, and network of empowered teams and that allows employees' participation in decision making, more employees autonomy and control over their work. Moreover, it enables teamworking and cross functional cooperation, flexible informal rules and procedures, fluid role definition to incite diversity in job tasks and simultaneously acquiring diverse knowledge and competencies (Charbonnier-Voirin, 2011; Sherehiy and Karwowski, 2014). It also encourages open and informal communication, networking internally between teams and also forming ties between internal and external networks to facilitate smooth flow of information and enable knowledge sharing (Alavi et al., 2014; Dove, 2001; Nijssen and Paauwe, 2012; Worley and Lawler, 2010) and at the same time boosts organizational learning by which organizations develop and foster the workforce agility (Alavi et al., 2014; Ebrahim et al., 2018; Eshlaghy et al., 2009; Nijssen and Paauwe, 2012).

Second, organizational processes, agility necessitates interconnected processes, which allow cross functional cooperation between different units and teams, quick access and share of information, rapid realization of innovative products and services that meet the new market demands (Teece et al., 2016). These processes are core processes vital for assuring rapid decision making and unceasing learning cycles which reinforce transparency, knowledge sharing, and continuous learning among teams and within team members to equip employees with the necessary data and competency, based on which they can confidently make fast and

efficient decisions and at the same time effortlessly react to change (Aghina et al., 2018; Charbonnier-Voirin, 2011).

Third, advanced technology as an integrated element in the organizational system that facilitates communication, enables efficient collaboration and ensures accelerated flow of real-time information and knowledge sharing for agile workforce to make rapid and efficient decisions. This indeed enable the workforce to seize opportunities or alleviate threats sensed in the business environment, participate in heightening their collaboration skills and certainly fortify their agility (Charbonnier-Vorin, 2011; Gunasekaran and Yusuf, 2002; Lin et al., 2006; Qin and Nembhard, 2015; Sherehiy et al., 2007; Tallon and Pinsonneault, 2011; Vázquez-Bustelo et al., 2007; Zhang and Sharifi, 2007; Zhang, 2011). Fourth, the study also emphasized the role of workforce as one of the essential enablers of agility and how it is significant to constantly develop the employee's agility by capitalizing on the personal resources while engendering and regenerating new ones.

This accordingly requires apposite selection process aligned with the organizational strategic agility that reassures selecting employees with fitting personalities to agile organizations. The essential characteristics of agile workforce who participate in developing organizational agility capabilities are proactivity, adaptivity, coping ability, psychological capital including resilience (Qin and Nembhard, 2015; Sherehiy and Karwowski, 2014). Nevertheless, since these behaviors are malleable and developable, managers have to ensure their constant development by providing autonomy and ensure jobs are designed in a way that enable job crafting and discretion by which employees have power and freedom to control their jobs. Job enrichment and rotation, changing roles and task variety give the employees an opportunity to develop their adaptability by experience and exposure, as well as interpersonal

ties for knowledge and information sharing accessibility. Furthermore, managers need to create supportive social climate based on trust through collaboration, teamwork, transparency and knowledge sharing, rather than competition, which ultimately stipulates safe environment and encourage employees to confidently take initiative and experiment without fear of blame or failure (Alavi et al., 2014; Charbonnier-Voirin et al., 2010; Charbonnier-Voirin, 2011; Collins and Smith, 2006; Dubey and Gunasekaran, 2014; Fuller et al. 2015; Sarker and Sarker, 2009; Qin and Nembhard 2015; Sherehiy and Karwowski, 2014).

Therefore, leaders play significant role in fostering employees' agility through establishing psychological safety among workforce, providing social support, promote collaboration and teamwork, stimulate personal growth, KSA development and continuous learning environment, while providing constructive feedback on performance and motivate employees' involvement and participation in decision making, in addition to motivating employees individually and collectively through reward and recognition to maintain their satisfaction. Agile organizations consider skill and knowledge-based incentives to encourage skills acquisition (Crocitto and Youssef, 2003; Eshlagy et al., 2010; Sumukadas and Sawhney, 2004), individual performance-based pay to motivate positive attitude towards changes and stimulate desired behaviors (Crocitto and Youssef, 2003; Hopp and Van Oyen, 2004), also team performance-based incentives to promote collaboration (Dyer and Shafer, 1999; Crocitto and Youssef, 2003; Zhang, 2011). Not only that but also agile organizations develop leadership in workforce in order to foster the leadership spirit within the employees at all levels (Eshlagy et al., 2010).

Managers, leaders and HR professionals can hunt two birds with one stone by embracing the practices enclosed in this study to develop their agility and at the same time



improve employee wellbeing and enable them attain the aspired WLB. They can name it the agility practices bundle. This study is an opportunity for managers to realize the significant role of workforce in developing the organizational agility capabilities, therefore it is essential to maintain their wellness and satisfaction. We highlighted the leadership role in developing employee's agility and the most suitable leadership styles to attain this goal within agile context.

Employees can manage attaining balance between their work and personal life, with high work engagement and low exhaustion if only organizations respect and apply the determinants and antecedents of organizational agility.

### **Limitations**

In spite of the contribution of this research, the study has some limitations that offer opportunities for future research to be addressed. This study is a cross-sectional in nature which impedes the determination of causality of the examined relationships adopted in this research. Therefore, our findings should not be considered as indications of fundamental causal relationships.

Other limitation involves assessing all scales by one single questionnaire, using a Likert scale for all by using self-report method in measuring and collecting data from the same person at a single point of time. Hence, potential bias could be expected from common method variance. However, a common method variance test was conducted to verify if there was a bias in the respondents' responses. We added a common latent factor (CLF) to our CFA model, and then we connected it to all observed items in our model. Moreover, a path analysis was

employed to check the sequences of relationships amongst the suggested variables in this research. Path analysis was conducted by utilizing the maximum likelihood method with the 5000 bootstraps. This could be a reasonable solution to alleviate this challenge. In this study, self-reported data was indispensable due to the individuals' perception of WLB depending on their priorities and aspired goals in life (Greenhaus and Allen 2011; Haar, 2013).

Nevertheless, to overcome these challenges, future research might consider collecting data from diverse sources to assess the crossover effects. Another relevant limitation is that in this study EWB is measured based on Huo and Boxall's (2017) instrument which was adopted from the reduced version of Utrecht Work Engagement Scale, revised by Demerouti et al. (2010). Work engagement encompasses two core dimensions, 'vigor' and 'dedication', where each dimension was measured with three items. However, in our study the chi-square statistic for the variable 'dedication' didn't meet the minimum acceptable standards and we had to remove the three items that measure 'dedication'. Accordingly, it is recommended to use the full version of EWB measurement scales. Finally, the sample size was relatively small but the minimum acceptable sample size for path analysis is 200. This number is acceptable according to the estimations of bias for the component  $r^2$  measurement for mediation (Fairchild et al., 2009). It is also worth mentioning that in this research, participants are from ICT companies in Egypt ( $n = 200$ ). Accordingly, caution should be considered to avoid generalizing the findings to other industries or countries.

## **Conclusion**

This research to our knowledge is the first to investigate the relationship between organizational agility, human resources flexibility, work-life balance and employee well-being. In this research a comprehensive perception that involves an analysis of sensing seizing and

reconfiguring the three constructs of OA, besides HRPF, ESF and EBF the three constructs of HRF, WLB and EWB was exploited. The research reinforced the significance of organizational context and practices for work organization and employee behavior in agile organizations. The research model offers a framework for envisaging and understanding the conceivable influence of organizational practices focused on the development of organizational agility capabilities on employee well-being and work-life balance. Moreover, the model suggests that if management implements agility related strategies and practices, the job demands and job resources resulting from these practices will more likely maintain reasonable work-life balance and eventually predict employee well-being.

The results of this study supported the notion proclaimed by agility literature that workforce agility requires capitalizing on their personal resources (proactive personality, coping ability, psychological capital), at the same time necessitate their constant development from the organizational side through leadership support. Moreover, agile organizations cannot rely only on employees' personal resources but need to provide contextual resources that support employees to fulfill their job demands in order to participate in developing the organizational agility capabilities. Furthermore, employees will not display the desirable behaviors essential to sense and respond to change unless they are empowered and motivated to do so. In fact, that could be realized through having confidence in their competences, possess autonomy, job control and participation in decision making. Besides, agile organizations provide the opportunity to utilize organizational resources and the freedom to discretionary manage their work.

Therein, our study confirms the essential role WLB plays as a job resource that buffers the detrimental effect of job demands on employee well-being in agile context. The study results

showed that the job demands incorporated in developing organizational agility capabilities are challenging demands not hindrance, which in turn do not negatively affect the employee well-being nor work-life balance, however conversely these challenges stimulate desirable behavior that increase work engagement and decrease exhaustion at work.

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## Appendix A

### Survey Instruments

Thank you for agreeing to participate in this research. The survey aims to investigate the ability of organizations to sense and respond to changes in the business environment, and how working in dynamic environment can have an influence on the employees' well-being and work life balance. For each of the items below, please select the response that most closely corresponds to your beliefs about your organization. There are no right or wrong answers; we are looking for your honest opinion. Your responses will be kept completely confidential; only summaries of the data will be presented.

The questionnaire is divided into 4 sections, which **will take around 30 minutes** of your time to complete.

\* Required

#### Section 1: Personal Background & Characteristics of the Company

Company Name:

Company Size\*:

(The number of employees)

Company Age\*:

(The number of years since the firm was established)

#### Personal Information

Age\*:

Gender\*:

Marital status\*:

Current Position\*:

## Section 2: Organizational Agility

The following questions are intended to examine **your organizational agility performance**. In a 7-Likert scale (where 1 = Rarely and 7 = very often), please state the frequency of the following statements?

	1	2	3	4	5	6	7
In my organization, people participate in professional association activities. *							
We use established processes to identify target market segments, changing customer needs and customer innovation. *							
We observe best practices in our sector. *							
We gather economic information on our operations and operational environment. *							
We invest in finding solutions for our customers. *							
We adopt the best practices in our sector. *							
We respond to defects pointed out by employees. *							
We change our practices when customer feedback gives us a reason							

to change. *							
How often have you carried out the following activities between 2014 and 2019?							
Implementation of new kinds of management methods. *							
New or substantially changed marketing method or strategy. *							
Substantial renewal of business processes. *							
New or substantially changed ways of achieving our targets and objectives. *							

### Section 3: Work family Balance

The following questions are intended to examine **the employee work life balance**. In a 5-Likert scale (where 1 = strongly disagree and 5 = strongly agree), please state how much do you agree with the following statements?

	1	2	3	4	5
I am satisfied with my WLB, enjoying both roles					
Nowadays, I seem to enjoy every part of my life equally well.					
I manage to balance the demands of my work and personal/family life well					

### Section 4: Employee well-being

The following questions are intended to examine **the employee well being**. In a 7-Likert scale (where 1 = never and 7 = always), please state how much do you agree with the following statements?

	1	2	3	4	5	6	7
When I get up in the morning, I feel like going to work. *							
At my work, I feel bursting with energy. *							
At my job I feel strong and vigorous. *							
My job inspires me. *							
I am enthusiastic about my job. *							
I am proud of the work that I do. *							
After work I usually feel worn out and weary. *							
There are days when I feel tired before I arrive at work. *							
After work, I tend to need more time than in the past in order to relax and feel better. *							
During my work, I often feel emotionally drained. *							

### Section 5: Human Resources Flexibility

The following questions are intended to examine the **Human Resources Flexibility**. In a 7-Likert scale (1 I totally disagree; 4 I neither agree nor disagree; 7 I totally agree), please state how much do you agree with the following statements?

	1	2	3	4	5	6	7
The flexibility of our employees' work habits helps us change according to market demands *							
People in our firm change their work habits in response to changes within the competitive environment. *							
Our employees respond to changing situations within a short period. *							
People in our firm readily change their work habits as demanded by changes within the working environment. *							
Most of our employees are flexible enough to adapt to dynamic work requirements. *							
Our employees adapt to changing work requirements within a short period. *							
Our employees' response to the changing nature of their jobs helps us remain competitive in the market. *							

People in our firm change their behavior in response to customers' requirements. *							
Our organization can shift employees to different jobs when necessary. *							
Our employees can switch to new jobs in our company within a short period. *							
Our employees are capable of putting new skills to use within a short period. *							
Our organization is capable of meeting the demand(s) for new skills by retraining or shifting its existing employees. *							
We employ people who own a broad variety of skills. *							
Many employees in our organization have multiple skills that are used in various jobs. *							
People in our organization can learn new skills within a short period. *							
The flexibility of our HR practices helps us adapt to the changing							

demands of the business environment. *							
Our organization modifies its HR system to keep pace with the changing competitive environment. *							
Our HR practice parameters have been designed in such a way that they can quickly adapt to changes in business conditions. *							
We introduce frequent changes in our HR practices in order to align the HR system with the changing work requirements. *							
Changes in our HR practices enable us to remain competitive in the market. *							
Our HR practices meaningfully adapt to changed business scenarios. *							
As a whole, our HR practices are flexible. *							

Thank you for your cooperation!



## **Appendix B**

### **Résumé de thèse**

L'évolution rapide de la technologie, les exigences changeantes des clients et la concurrence agressive dans un monde volatile, incertain, complexe et ambigu (VICA) sont devenues comme une réalité qui impose aux organisations de développer leur agilité organisationnelle. Cette agilité se définit comme une capacité dynamique qui permet aux organisations de détecter et de réagir rapidement aux changements imprévisibles avant leurs concurrents dans un environnement professionnel dynamique (Teece et al., 2016, 2017). Il existe un consensus général dans la littérature et de nombreuses études confirment avec force que l'agilité est une stratégie fondamentale pour la réussite et la survie des entreprises face à une concurrence féroce dans un environnement d'affaires complexe, incertain, turbulent et dynamique (Chakravarty et al., 2013 ; Felipe et al., 2016, 2019 ; Nijssen et Paauwe, 2012 ; Tallon et Pinsonneault, 2011).

La majorité des recherches antérieures se sont concentrées sur l'exploration et l'analyse de l'effet de l'agilité organisationnelle sur la performance, l'innovation, la compétitivité de l'organisation et sa productivité (Felipe et al., 2019 ; Tallon et Pinsonneault, 2011 ; Vazquez-Bustelo et al., 2007). Au vu de l'importance du rôle des employés sur la capacité des entreprises à être agiles, cette thèse vise à analyser la relation entre l'agilité organisationnelle et le bien-être des employés, ainsi que l'équilibre entre leur vie professionnelle et leur vie privée.

### **La problématique de la thèse et l'intérêt du sujet**

Pour devenir agiles, développer leurs capacités dynamiques et bénéficier d'un avantage concurrentiel durable, l'entreprise a besoin d'une main-d'œuvre capable de participer à l'anticipation du changement et s'y adapter, d'une main d'œuvre créative, innovante, ouverte aux exigences professionnelles nouvelles, capables de développer ses connaissances, ses compétences et ses capacités. Ainsi, par leurs caractéristiques, les employés jouent un rôle essentiel dans le développement des capacités d'agilité organisationnelle.

Pourtant, des recherches montrent que les impacts d'un environnement instable sur la gestion des ressources humaines sont réels. Un rythme accéléré des changements subis par les organisations amène plus d'incertitude et d'instabilité au travail et donc plus de stress et de turnover, mais aussi moins de satisfaction au travail et d'engagement organisationnel de la part des collaborateurs (Rafferty et Griffin, 2006 ; Wisse et Sleebos, 2015).

Notre recherche vise donc à découvrir et à comprendre l'influence d'un environnement volatile, incertain, complexe et ambigu (VICA) sur les organisations et leurs employés : Comment les organisations parviennent-elles à devenir agiles ? ; Comment développent-elles leurs capacités d'agilité organisationnelle ? ; Comment développent-elles la flexibilité des employés afin qu'ils soient adaptables et proactifs ? ; Comment fournissent-elles les ressources et le soutien nécessaires pour maintenir le bien-être de leurs employés et l'équilibre de vie professionnelle et privée dans un tel environnement ?

Ces questions sont importantes car, d'une part, l'agilité des entreprises est un déterminant de leur pérennité et, d'autre part, la flexibilité des ressources humaines est nécessaire pour faire face à tous changements stratégiques dans un environnement dynamique.

La littérature montre en effet que l'agilité organisationnelle et la flexibilité des ressources humaines sont des capacités dynamiques organisationnelles essentielles aux organisations pour développer un avantage concurrentiel durable. En nous appuyant sur la théorie des capacités dynamiques et sur le modèle de demande d'emploi et de ressources, nous proposons un modèle qui vise à comprendre l'impact de l'agilité organisationnelle sur le bien-être des employés et l'équilibre entre la vie professionnelle et la vie privée des employés.

Les concepts sont construits de la manière suivante :

- L'agilité organisationnelle se compose de trois éléments principaux : la capacité de détection, la capacité de saisie et la capacité de reconfiguration.
- La flexibilité des ressources humaines est composée de trois éléments principaux : la flexibilité des pratiques en matière de ressources humaines, la flexibilité des compétences des employés et la flexibilité du comportement des employés.

- Le bien-être des employés est composé de l'engagement et de l'épuisement au travail.

La nouveauté du sujet nous amène à explorer les relations entre ces différentes variables. Il s'agit notamment de tester empiriquement l'effet de médiation de l'équilibre entre vie professionnelle et vie personnelle, la relation entre l'agilité organisationnelle, la flexibilité des ressources humaines et le bien-être des employés en formulant les hypothèses suivantes :

1. L'agilité organisationnelle est positivement liée au bien-être des employés.
2. L'agilité organisationnelle est positivement liée à l'équilibre entre le travail et la vie privée des employés.
3. L'équilibre entre le travail et la vie privée des employés joue un rôle de médiateur dans la relation entre l'agilité organisationnelle et le bien-être des employés.
4. La flexibilité des RH est positivement liée au bien-être des employés.
5. La flexibilité des RH est positivement liée à l'équilibre entre le travail et la vie privée des employés.
6. L'équilibre entre le travail et la vie privée des employés joue un rôle de médiateur dans la relation entre la flexibilité des RH et le bien-être des employés.

### **La méthodologie de la recherche**

L'échantillon ciblé pour cette recherche comprend des participants travaillant spécifiquement dans l'industrie des technologies de l'information et de la communication (TIC) en Égypte. Ce secteur des TIC a été choisi du fait des changements rapides et imprévisibles qui s'y produisent constamment.

Le questionnaire a été rédigé en anglais, langue officielle des affaires en particulier dans le secteur des TIC. Il n'a pas été jugé utile de traduire le questionnaire en arabe, langue maternelle du pays.

Une analyse factorielle confirmatoire a été réalisée, puis une analyse de cheminement a été déployée pour examiner les séquences des relations entre les variables de cette étude. Six

hypothèses principales et leurs sous-hypothèses ont été générées et examinées pour répondre aux questions de l'étude.

L'AFC combinée à l'analyse du cheminement a été appliquée pour examiner les hypothèses émises dans notre étude. Les hypothèses ont été testées à l'aide de l'analyse de chemin dans AMOS (v. 25) pour évaluer la relation directe entre les variables indépendantes et les variables dépendantes et pour évaluer les effets de médiation des variables de l'étude.

### **Les résultats de la recherche**

Les résultats de cette étude suggèrent que les variables indépendantes (L'agilité organisationnelle et la flexibilité des RH) sont identifiées et participent de manière significative à l'équilibre travail - vie privée et au bien-être des employés dans le contexte d'agilité organisationnelle et de flexibilité des ressources humaines dans le secteur des TIC. Les résultats montrent que les indicateurs d'ajustement du modèle hypothétique ont été adéquatement satisfaits.

En première étape, nous avons analysé les liens entre l'agilité organisationnelle et l'équilibre vie professionnelle et vie personnelle, le bien-être des employés ainsi que le rôle de médiation de l'équilibre entre vie professionnelle et vie personnelle dans cette relation.

Les résultats montrent que la relation entre la capacité de détection et l'équilibre vie professionnelle et vie personnelle est négative et que cela conduit à une relation négative entre l'équilibre vie professionnelle et vie personnelle et le bien-être des employés. Cependant, la relation directe entre la capacité de détection et le bien-être des employés est une relation positive. Néanmoins, les deux autres constructions de l'agilité organisationnelle (capacité de saisie et capacité de reconfiguration) ont montré une relation positive avec l'équilibre vie professionnelle et vie personnelle et par conséquent une relation positive avec le bien-être des employés. Se basant sur le modèle des exigences professionnelles et des ressources, ces résultats montrent que les exigences professionnelles associées au développement des capacités de détection organisationnelle ne permettent pas de prédire l'équilibre entre vie professionnelle et vie personnelle et, par conséquent, ne permettent pas de prédire le bien-être des employés.

En deuxième étape, nous avons analysé la flexibilité des ressources humaines et ses relations avec l'équilibre vie professionnelle et vie privée et le bien-être des employés. Les résultats ont révélé que les deux premiers construits -flexibilité des pratiques des ressources humaines et flexibilité des compétences des employés- n'ont aucune relation significative avec l'équilibre vie professionnelle et vie personnelle. En revanche, le troisième construit -la flexibilité du comportement des employés- a une relation positive significative avec l'équilibre vie professionnelle et vie personnelle. De plus, la flexibilité du comportement des employés a une relation positive significative avec le bien-être des employés, par le rôle de médiation de l'équilibre vie professionnelle et vie personnelle, tandis que la relation était insignifiante sans l'effet de médiation de l'équilibre entre vie professionnelle et vie personnelle.

Ces résultats confirment le rôle essentiel que joue l'équilibre entre vie professionnelle et vie personnelle en tant que ressource d'emploi éliminant l'effet néfaste des exigences du travail nécessaires pour générer la flexibilité du comportement des employés. Cependant, la flexibilité des pratiques des ressources humaines et la flexibilité des compétences des employés ont montré qu'elles prédisaient le bien-être des employés sans l'effet médiateur de l'équilibre entre vie professionnelle et vie personnelle. Cela démontre que les ressources professionnelles mobilisées pour développer la flexibilité des pratiques de ressources humaines et la flexibilité des compétences des employés sont suffisantes pour répondre aux exigences du travail et, par conséquent, prédire le bien-être des employés.

### **Les apports théoriques de la recherche**

Cette recherche a des implications importantes pour la littérature en GRH. En effet, il s'agit de la première étude qui mobilise la théorie des capacités dynamiques et le modèle de demande d'emploi et de ressources, pour analyser la relation entre l'agilité organisationnelle, la flexibilité des ressources humaines, l'équilibre vie professionnelle - vie privée et le bien-être des employés. Elle ouvre la voie aux chercheurs pour approfondir les relations entre les variables retenues dans notre modèle, dans un environnement volatile, incertain, complexe et ambigu (VICA) où les organisations se trouvent souvent contraintes de faire des compromis

sur le bien-être des employés ainsi que sur l'équilibre travail-vie privée pour obtenir des performances.

Fondé sur la théorie des capacités dynamiques, le développement des capacités dynamiques organisationnelles est essentiel dans divers contextes, mais revêt sans aucun doute une importance supplémentaire dans un environnement d'affaires en mutation rapide et imprévisible (Helfat et Winter, 2011 ; Prange et Verdier, 2011). Par conséquent, la théorie des capacités dynamiques est principalement pertinente pour développer les capacités d'agilité organisationnelle et la flexibilité des ressources humaines, car elle fournit des mécanismes robustes pour détecter constamment les changements, saisir les opportunités, reconfigurer et développer les ressources en réponse au changement. Cependant, comme la main-d'œuvre est l'un des catalyseurs essentiels de l'agilité organisationnelle, notre étude a prouvé que la théorie de la capacité dynamique ne peut pas atteindre un avantage concurrentiel durable si le catalyseur est épuisé ou non engagé au travail. Cela était évident lorsque la capacité de détection, qui est l'un des trois construits de l'agilité organisationnelle, a montré une relation négative avec l'équilibre entre vie professionnelle et vie privée, ce qui a conduit à une relation négative avec le bien-être des employés. Par conséquent, selon le modèle des exigences et des ressources du travail, il est essentiel de fournir des ressources suffisantes pour permettre aux employés de répondre à leurs exigences professionnelles et de développer la capacité de détection de l'organisation.

Selon la théorie des capacités dynamiques, puisque les trois capacités de l'agilité sont basées sur des activités d'exploration et d'exploitation, et que les deux activités selon la théorie du paradoxe sont considérées comme des activités contradictoires. La capacité individuelle à réaliser des activités contradictoires doit être prise en considération, car, selon la théorie du paradoxe, les employés ont soit la capacité de réaliser les deux activités simultanément, soit de manière séquentielle, soit de dédier des personnes différentes à chaque activité. Par conséquent, nous proposons de mesurer l'effet de modération de l'ambidextérité individuelle dans la relation entre l'agilité organisationnelle et l'équilibre entre vie professionnelle et vie privée et le bien-être des employés. La même observation s'applique à la relation entre la flexibilité des ressources humaines et bien-être des employés et de l'équilibre entre vie professionnelle et vie privée.

## **Les implications managériales de la recherche**

L'objectif principal d'une organisation agile est de rester constamment compétitive grâce à des attributs tels que la proactivité, la compétence, l'innovation, l'adaptabilité, la flexibilité, la rapidité, la rentabilité, la productivité, la culture du changement, la qualité, l'apprentissage et la gestion des connaissances, ce qui nécessite d'attirer et de retenir une main-d'œuvre agile et de lui fournir tous les moyens qui favorisent son agilité. Dans notre recherche, nous avons couvert les pratiques qui permettent aux employés de participer au développement des capacités d'agilité organisationnelle et, en même temps, nous avons souligné leur influence sur le bien-être des employés et l'équilibre entre vie professionnelle et vie privée. Ainsi, les pratiques couvertes par notre recherche pourraient être adoptées par les organisations qui souhaitent être agiles tout en maintenant le bien-être des employés et l'équilibre entre vie professionnelle et vie privée.

En outre, nous avons mis en évidence les ressources nécessaires pour que les employés répondent aux exigences de leur travail et, en même temps, les ressources nécessaires pour développer constamment leur proactivité, leur adaptabilité et leur résilience. Nous avons également couvert les caractéristiques de la main-d'œuvre agile qui pourrait diriger une organisation agile et participer constamment au développement des capacités d'agilité organisationnelle. Tout cela aidera les managers à sélectionner la main-d'œuvre adéquate pour les organisations agiles et, dans le même temps, les managers sauront comment développer l'agilité des employés tout en assurant leur bien-être et l'équilibre entre vie professionnelle et vie privée.

En développant leurs capacités d'agilité organisationnelle et en prenant en considération nos suggestions concernant l'ambidextérité individuelle et les ressources de travail nécessaires, les managers seront en mesure de faire d'une pierre deux coups : être agile et en même temps maintenir le bien-être des employés.

Nous mettons en avant les catalyseurs de l'agilité organisationnelle.

Tout d'abord, la structure organisationnelle adoptée par les organisations agiles présente des caractéristiques de structure organique, de structure plus plate soit horizontale, en réseau ou virtuelle. Une telle structure encourage la décentralisation, la réduction des niveaux

hiérarchiques, la faible formalité et le réseau d'équipes autonomes, ce qui permet aux employés de participer à la prise de décision, d'être plus autonomes et de mieux contrôler leur travail.

Ensuite, l'agilité permet le travail en équipe et la coopération interfonctionnelle, des règles et procédures informelles flexibles, une définition fluide des rôles pour inciter à la diversité des tâches professionnelles et à l'acquisition simultanée de connaissances et de compétences diverses (Charbonnier-Voirin, 2011 ; Sherehiy et Karwowski, 2014). Elle encourage également la communication ouverte et informelle, la mise en réseau interne entre les équipes et également la formation de liens entre les réseaux internes et externes pour faciliter la circulation fluide de l'information et permettre le partage des connaissances (Alavi et al., 2014 ; Dove, 2001 ; Nijssen et Paauwe, 2012 ; Worley et Lawler, 2010). En même temps, elle stimule l'apprentissage organisationnel par lequel les organisations développent et favorisent l'agilité de la main-d'œuvre (Alavi et al., 2014 ; Ebrahim et al., 2018 ; Eshlaghy et al., 2009 ; Nijssen et Paauwe, 2012).

De plus, l'agilité nécessite des processus interconnectés, qui permettent une coopération interfonctionnelle entre les différentes unités et équipes, un accès et un partage rapides de l'information, une réalisation rapide de produits et de services innovants qui répondent aux nouvelles demandes du marché (Teece et al., 2016). Ces processus sont des processus de base essentiels pour assurer une prise de décision rapide et des cycles d'apprentissage incessants qui renforcent la transparence, le partage des connaissances et l'apprentissage continu entre les équipes et au sein des membres de l'équipe, afin de doter les employés des données et des compétences nécessaires, sur la base desquelles ils peuvent prendre en toute confiance des décisions rapides et efficaces et en même temps réagir sans effort au changement (Aghina et al., 2018 ; Charbonnier-Voirin, 2011).

Il est aussi possible d'améliorer et d'accélérer la prise de décision des employés grâce à une technologie avancée. Il s'agit d'une partie intégrée du système organisationnel qui facilite la communication, permet une collaboration efficace et assure un flux accéléré d'informations en temps réel et le partage des connaissances. Cela permet en effet aux employés de saisir les opportunités ou d'atténuer les menaces ressenties dans l'environnement des affaires, de participer à l'amélioration de leurs compétences de collaboration et certainement de renforcer



leur agilité (Charbonnier-Vorin, 2011 ; Gunasekaran et Yusuf, 2002 ; Lin et al., 2006 ; Qin et Nembhard, 2015 ; Sherehiy et al., 2007 ; Tallon et Pinsonneault, 2011 ; Vázquez-Bustelo et al., 2007 ; Zhang et Sharifi, 2007 ; Zhang, 2011).

Enfin, la personnalité et les comportements des employés sont considérés comme des ressources personnelles qu'une organisation doit découvrir et utiliser. Ces ressources personnelles sont malléables et il est donc important que les managers continuent à les motiver et à les développer.

### **Les limites de la recherche**

Cette étude présente certaines limites qui offrent des opportunités pour des recherches futures. Cette étude est de nature transversale, ce qui empêche la détermination de la causalité des relations examinées adoptées. Par conséquent, nos résultats ne doivent pas être considérés comme des indications de relations causales fondamentales.

Une autre limite est liée aux échelles de mesure et à un biais potentiel dû à la variance de la méthode commune du fait de l'évaluation de toutes les échelles par un seul questionnaire, de l'utilisation de l'échelle de Likert pour toutes les échelles et de l'utilisation de la méthode d'auto-évaluation pour mesurer et collecter des données auprès de la même personne à un moment donné. Pour limiter ce biais, un test de variance de méthode commune a été effectué pour vérifier s'il y avait des biais dans les réponses des répondants. De plus, un facteur latent commun (FLC) a été ajouté au modèle AFC pour contrôler la variance.

De plus, une analyse de chemin a été employée pour vérifier les séquences de relations entre les variables suggérées dans cette recherche. L'analyse de chemin a été réalisée en utilisant la méthode du maximum de vraisemblance avec 5000 bootstraps. Cela pourrait être une solution raisonnable pour atténuer ce problème. Dans cette étude, les données autos déclarées étaient indispensables en raison de la perception qu'ont les individus de l'équilibre entre vie professionnelle et vie personnelle, en fonction de leurs priorités et des objectifs qu'ils souhaitent atteindre dans la vie (Greenhaus et Allen 2011 ; Haar, 2013). Néanmoins, pour

surmonter ces difficultés, les recherches futures pourraient envisager de collecter des données provenant de diverses sources pour évaluer les effets croisés.

Une autre limite de la recherche est que le bien-être des employés est mesuré sur la base de l'instrument de Huo et Boxall (2017). Cet instrument a été adopté à partir de la version réduite de l'échelle d'engagement au travail d'Utrecht (2002), révisée par Demerouti et al. (2010). L'engagement au travail englobe deux dimensions essentielles – « la vigueur » et « le dévouement », chacune d'elle ayant été mesurée avec trois items. Cependant, dans notre étude, la statistique du chi-deux pour la variable "dévouement" n'a pas atteint les normes minimales acceptables donc nous avons dû supprimer les trois items qui mesurent cette variable. Par conséquent, il est recommandé d'utiliser la version complète des échelles de mesure d'ISF.

Enfin, la taille de l'échantillon est relativement petite, mais la taille minimale acceptable pour l'analyse des chemins est de 200. En effet, ce nombre est acceptable selon les estimations du biais pour la mesure de la composante  $r^2$  pour la médiation (Fairchild et al., 2009). Il convient également de mentionner que dans cette recherche, les participants proviennent d'entreprises de TIC en Égypte ( $n = 200$ ). Par conséquent, il convient de faire preuve de prudence pour éviter de généraliser les résultats à d'autres industries ou pays.



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**Titre :** La relation entre l'agilité organisationnelle, la flexibilité des ressources humaines et le bien-être des employés : le rôle de médiation de l'équilibre entre vie professionnelle et vie privée.

**Mots clés :** Agilité organisationnelle, flexibilité des ressources humaines, bien-être des employés, équilibre entre vie professionnelle et vie privée, théorie des capacités dynamiques, modèle de demande d'emploi et de ressources.

**Résumé :** L'évolution rapide de la technologie, les exigences changeantes des clients et la concurrence agressive dans un monde volatile, incertain, complexe et ambigu (VICA) sont devenues comme une réalité qui impose aux organisations de développer leur agilité organisationnelle. Cette agilité se définit comme une capacité dynamique qui permet aux organisations de détecter et de réagir rapidement aux changements imprévisibles avant leurs concurrents dans un environnement professionnel dynamique (Teece et al., 2016, 2017). Il existe un consensus général dans la littérature et de nombreuses études confirment avec force que l'agilité est une stratégie fondamentale pour la réussite et la survie des entreprises face à une concurrence féroce dans un environnement d'affaires complexe, incertain, turbulent et dynamique (Chakravarty et al., 2013; Felipe et al., 2016, 2019; Nijssen et Paauwe, 2012; Tallon et Pinsonneault, 2011).

Au vu de l'importance du rôle des employés sur la capacité des entreprises à être agiles, cette thèse vise à analyser la relation entre l'agilité organisationnelle et le bien-être des employés, ainsi que l'équilibre entre leur vie professionnelle et leur vie privée. De plus, en raison de l'importance de développer la flexibilité des employés, cette recherche a aussi vise à analyser la relation entre la flexibilité des ressources humaines et le bien-être des employés, ainsi que l'équilibre entre leur vie professionnelle et leur vie privée. Les résultats ont montré que les capacités dynamiques ne sont pas suffisantes pour développer l'agilité organisationnelle qui conduit à un équilibre suffisant entre vie professionnelle et vie privée et au bien-être des employés sans fournir suffisamment de ressources qui atténuent l'effet négatif des exigences professionnelles. De plus, l'ambidextérité individuelle des employés doit être prise en considération pour leur permettre de gérer les deux activités contradictoires que sont l'exploration et l'exploitation.

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**Title:** The relationship between organizational agility, human resources flexibility and employee well-being: the mediation role of work-life balance

**Keywords:** Organizational agility, Human Resources flexibility, employee well-being, work-life balance, dynamic capabilities theory, job demand and resource model (JDR-M)

**Abstract:** Rapidly evolving technology, changing customer demands, and aggressive competition in a volatile, uncertain, complex, and ambiguous (VICA) world have become like a reality that requires organizations to develop organizational agility. This agility is defined as a dynamic capability that enables organizations to detect and respond quickly to unpredictable changes ahead of their competitors in a dynamic business environment (Teece et al., 2016, 2017). There is a general consensus in the literature and many studies strongly confirm that agility is a fundamental strategy for business success and survival in the face of fierce competition in a complex, uncertain, turbulent, and dynamic business environment (Chakravarty et al., 2013; Felipe et al., 2016, 2019; Nijssen & Paauwe, 2012; Tallon & Pinsonneault, 2011).

Due to the importance of the employees role in enabling the companies ability to be agile, this thesis aims to analyze the relationship between organizational agility and employees' well-being, as well as their work-life balance. Furthermore, due to the importance of developing employee flexibility, this research also aimed to analyze the relationship between human resources flexibility and employee well-being, as well as their work-life balance. The results showed that dynamic capabilities are not enough to develop organizational agility that leads to sufficient work-life balance and employee well-being without providing sufficient job resources that buffers the detrimental effect of the job demands. Moreover, employee individual ambidexterity needs to be taken into consideration to enable the employees manage the two contradictory activities exploration and exploitation which are necessary to develop the organizational agility.