Organizational Change and Digital Transformation For Organizational Agility in Crisis Situations

Jihane CHAANOUN & Ali RAHMOUNI & Majda ALAOUI

LIRAM-ENCGO, Université-Mohammed-Premier, Complexe Universitaire, BP-658, Oujda, Morocco. JIhane.chaanoun@gmail.com

LIRAM-ENCGO, Université-Mohammed-Premier, Complexe Universitaire, BP-658, Oujda, Morocco. a.rahmouni@ump.ac.ma

LIRAM-ENCGO, Université-Mohammed-Premier, Complexe Universitaire, BP-658, Oujda, Morocco. m.alaoui@ump.ac.ma

Abstract

Today, organizations are operating in a context of increasing crisis situations. We are witnessing a certain number of large-scale changes which are pushing organizations, whether on an international or national scale, to resort to new and innovative managerial practices, through an approach which consists of integrating new technologies in order to move from traditional operating modes which are sometimes considered rigid to other mechanisms which are better adapted to the current context of uncertainty, known as agile. Indeed, it is worth highlighting the various massive spin-offs that have resulted from the majority of crisis situations, including the most recent crisis, namely the Covid pandemic19. This unprecedented global crisis has demonstrated the importance of rethinking organizations' operating strategies by using other, more flexible means to ensure their sustainability, for example by relying on digital transformation as a vector for accelerating transformations by excellence on an international scale. In addition, OECD statistics for the year 2021 explain the negative impact of this crisis on the global economy and on organizations in particular. The objective of our scientific contribution is to provide an answer to the following research question: "How can organizational change through digital technology enable organizations to develop agility in crisis situations? The results of our research lie in a theoretical contribution that proposes the establishment of a link between the conceptual triptych of organizational change, digital transformation and organizational agility, as well as the development of a conceptual model for achieving organizational agility through digital transformation. As far as the managerial contribution is concerned, the conceptual model will be tested in an empirical framework and the conditions for the success of the digital transformation process will be identified, enabling organizations to move towards organizational agility and resilience.

Keywords: Organizational change, Digital transformation, Organizational agility, Crisis, Conceptual Model.
Paper type: Theoretical Research.

1. Introduction

In recent times, the environment in which we live is becoming increasingly uncertain and crisis situations are becoming more and more frequent. Indeed, this current situation has led to a number of changes at all levels, whether economic, social, political or even environmental. As a result, organisations are called upon today more than ever to implement innovative managerial practices, through an approach that consists of integrating new technologies to make a transition from traditional and sometimes rigid operating modes to other mechanisms that are better adapted to the current context of uncertainty, known as "agile practices". Indeed, it should be pointed out that the various massive fallouts that have resulted from the majority of crisis situations, including the most recent crisis, namely the Covid pandemic19. This unprecedented global crisis has demonstrated the importance of once again rethinking firm organizational strategies by resorting to other, more flexible means based on the mechanisms of New Public Management, in this case digital transformation, which is a vector for accelerating transformations by excellence with international scope. It should be noted that the OECD statistics for the year 2021 justify the negative impact of this crisis on the world economy and in particular on the functioning of organisations. Aware of this challenge, Morocco in particular has used digital technology as a lever for organizational change in order to develop organizational agility and resilience to deal with unforeseen circumstances and to ensure better management of the performance of its organizations in order to survive and guarantee their survival. However, we can describe the crisis as an incremental change that has its share of paradoxes. For despite the challenges involved, it is an opportunity to initiate dynamic capabilities to meet the difficult course of the crisis. Moreover, digital transformation is described as a radical change that affects the organization as a whole. Indeed, to integrate and exploit the potential of these new technologies, organizations must change their model to react quickly to the disruption of new technologies while being agile and resilient. Thus, the rapid and unpredictable evolution of the environment makes these changes a complex and difficult process to implement, but one that remains inevitable for organizations aspiring to sustain their model and create value (Kotter & Schlesinger, 2008). However, it's not just a matter of adapting the right solution to the right situation, but of constantly looking for ways to maintain the balance. Indeed, it's about developing the ability to thrive in an environment characterised by continuous change.

This capacity for organizational agility is defined by (Barrand, 2010) as 'a perpetual search for balance between an active dimension (doing and proving that one can do things), a reactive dimension (being opportunistic in the face of the changes observed in order to build loyalty) and a proactive dimension (seeking innovation)'. To this end, and in view of the complexity, disruption and inevitability of the environment in which organizations operate, we will attempt through this scientific contribution to answer the following research question : "How can organizational change via digital technology enable organizations to develop agility in the face of crisis situations ? The plan of our scientific contribution will be deconstructed as follows. Firstly, through an extensive literature review, we will try to get around the concept of "Organizational Agility" starting from its definitions. We will then highlight the use of innovative practices to deal with emergencies and future crisis situations via what is known as 'digital transformation'. And finally, we will try to reflect on the relationship between organizational change via digital

transformation and organizational agility in order to propose a conceptual framework representing the approach to change via organizational agility in a crisis context.

2. Literature review

2.1 Organizational Agility

To call an organization a successful one operating in a context of exponential change, it must have the capacity for reactivity, flexibility and adaptation in order to cope with it and ensure its sustainability. In addition, the context of increasing and unprecedented crisis and uncertainty leads organizations to change their posture, their approach and their culture in order to provide new and adapted solutions, to take advantage of the opportunities presented and to offer new added value to the various stakeholders. In this respect, change has become the rule for survival, but this change is not easy to achieve, and organizational agility capabilities should be developed to ensure the sustainability of organizations. For the scientific community studying management sciences, the concept of "organizational agility" has been studied many times. It should be noted that this concept refers to the search for a certain stability while avoiding situations of disorder affecting the proper functioning of organizations. Moreover, the current situation, characterised by changes at all levels - environmental, social, economic, political and even technological - requires organizations to constantly develop their capacity for renewal and adaptation in order to contribute to performance and ensure their survival. (Watzlawick, 1980) agrees with these remarks, and insists on the fact that "not to face up to change is to inevitably expose oneself to disappearance". As a result, organizational agility remains a cornerstone and key determinant of organizational performance. (Darwin, 1882) in turn states that "The species that survive are not the strongest, nor the most intelligent, but those that best adapt to change". The objective is then to transform organizations by making them more agile, as the notion of organizational agility refers to "the capacity to absorb shocks, to measure their magnitude and to ensure that they do not recur, with a capacity for renewal by imagining several scenarios and a capacity for appropriation in order to learn from them. Thus, these three capacities make organizations resilient', according to (Weick&Sutcliffe, 2007).

Indeed, we can argue that 'it is by changing that organizations adapt to the reality of a changing environment and improve their performance' (Latortue,2017). Indeed, the notion of organizational agility was first introduced into management through 'agile manufacturing' as a 21st century issue (Nagel and Dove, 1991). It means the ability of organizations to detect and solve problems, identify and seize opportunities and threats with ease, speed and dexterity (D'Aveni, 1994). Of course, there are several definitions of the concept of organizational agility proposed by the literature, which is very abundant. But we will choose some of them that we think are the most relevant, among them the definition of (Deharo,2018) that states that organizational agility has "become thus a lever for improving the capabilities of public organizations to face the different risks and changes of their environments". From the point of view of (Goldman and Nagel,1993), they distinguish organizational agility as a condition of survival, allowing to adopt the best management to achieve the best competitive advantage and consider agility as a response to the changes caused by the uncertain and turbulent environment. Above all, it is the ability and capacity of organizations to act with the least amount of risk in a changing environment. According to (Dove, 1999, 2001) agility enables organizations to

adapt to a context of uncertain and continuous change in order to ensure their sustainability. Thus, and still in relation to the year 2001, Dove has tried to give a more precise definition of the term agility and that can only exist with two major conditions namely : Profitability and organizational adaptability. The first condition refers to making more money as much as it consumes. And the second condition refers to the ability to adapt continuously to changes in the environment. We can summarise agility as being quick to change (Dove, 2001). Consequently, agility is seen as a response to opportunities and threats in the environment with greater profitability.

By way of consolidation, organizational agility refers to the ability to provide a comprehensive response to the upheavals imposed by a complex and uncertain business environment (Goldman et al., 1995). This is equivalent to taking advantage of a threat to turn it into an opportunity and win the performance challenge. It is worth highlighting that there are four dimensions at the heart of organizational agility which can be classified as follows (Gunasekaran, 1998): in first place, we have commercial proactivity which is based on delivering value to customers as quickly as possible; then we have cultural flexibility which refers to being ready to change through a flexible culture; in third place we have social proactivity which is based on valuing people through knowledge management; and finally we find structural flexibility which aims to foster digital culture. Moving on to the characteristics of organizational agility development, (Shafer, 1997) was the first author to propose a theoretical model of the agility construct comprising three specific and independent organizational capabilities :A capacity to read, by being flexible and reactive to respond to changes in the environment, especially unpredictable ones, while developing a capacity to monitor and innovate to seize the best opportunities; An ability to respond quickly, and to improvise in the face of a changing context in order to adapt to different changes ; An ability to develop adaptive skills in a short timeframe while integrating organizational learning to facilitate responsiveness and proactivity. However, we can argue that the concept of agility is approached from different angles : both strategic and operational, global and functional, technical and human. In addition, different models of organizational agility have been proposed in the literature, including the theoretical model of (Sharifi et al., 2001), which links three main elements, Agility drivers (what drives the organization towards agility) ; Agile capabilities (what is at the heart of the agile enterprise) ;Agility levers (what helps the business to develop agility). These three capabilities enable the development of organizational agility, and it should be recognised that the capabilities to develop organizational agility cannot be developed without relying on levers to develop it. With regard to (Sambamurthy et al., 2003), he proposes a different model of organizational agility composed of three interdependent capabilities, namely customer agility, partner agility and operational agility.

We will end this section with the most recent model of organizational agility (Cohard & Messeghem, 2022) which consists of the following three capabilities : A strategic response capability : proactivity in the face of market changes ; An autonomous and diverse team ; An operational response capacity : organization of work to anticipate change. In addition, and going back to the sources of organizational agility in management sciences, the theoretical basis of this concept is based on organizational agility capabilities that are considered as separate streams since it is a protean concept and we will detail them as follows :Responsiveness : (Zaheer and Zaheer, 1997) define responsiveness as the speed of organizations to respond to signals from the environment, and to make rapid assessments of information from the environment to make quick decisions (Eisenhardt, 1989) ; Quickness : This is not just about responding to a

situation in a timely manner, but rather about making a decision as quickly as possible ; Flexibility : This aspect refers to the ability of an organization to respond to various environmental, dynamic and competitive demands. It is a fundamental approach to managing uncertainty (Sanchez, 1995) ; Competence : This refers to having the competence to react quickly to changes in a flexible manner while being quick in making decisions.

The search for flexibility and adaptability at any speed is now necessary to ensure the survival of organizations. Indeed, organizational actors are the main success factor in the face of a complex environment. Organizational agility seems to be the means to better face crisis situations, which arise from an unpredictable context. Thus, no one can deny that crisis situations have evoked a real shock wave, they have turned the whole system and the functioning of organizations upside down. The vast majority of organizations have adapted, while others have come to an end. In addition, these crisis situations have always been understood as incremental organizational changes that have a lot of paradoxes. In particular, public organizations, unlike private organizations, have been the most exposed to crisis situations as they are perfectly aligned with their changing environment and lack capacity building for organizational agility and resilience. This observation was also endorsed by the advent of the most recent crisis situation, namely the global pandemic crisis "Covid19 ", which has put enormous pressure on public organizations in particular by pushing them to change their managerial practices, which were described as rigid, to more flexible ones from the point of view of digital transformation, enabling them to adapt to the context of constant change. According to the who, this pandemic is defined as "a public health emergency of universal scope" that must be countered in order to minimise its negative impact. In the same framework of ideas, our current problem is at the centre of the debates of all managers who are wondering about the organisational changes generated by this pandemic, as well as resorting to organisational agility to overcome the situation. It should be emphasised that this outbreak is a test of the new governance mechanisms to be adopted and calls for, among other things, digital transformation, which is a vector of change par excellence with international scope. In the Kingdom of Morocco, public organizations have begun to rethink their organizational strategies by adopting a trend of thought called New Public Management, which consists of adopting innovative management mechanisms inspired by private management in order to implement them in the public organization and win the challenge of organizational agility, because 'in response to constraints, the organization seeks to optimise itself' (Charpentier, 2004). It should be remembered that at national level, the challenge was considerable, since resources were very limited to save the existing system in the face of a situation described as chaotic. Indeed, we have witnessed a paradigm shift, from a face-to-face to a remote posture. To this end, a break with traditional management methods has become necessary because the crisis has already become a fundamental axis for reshaping traditional working methods to adopt other mechanisms described as agile, thanks to the introduction of digital transformation in organizations. However, despite the negative effects of the crisis, such as redundancies, the loss of social benefits and the loss of jobs for a large number of people, the quality of products and services has deteriorated and the unemployment rate has risen significantly.

Thus, in order to adapt to crisis situations while being agile and transforming this crisis into an opportunity, new working mechanisms have taken place such as : teleworking and staff rotation which require an investment in digital solutions in order to ensure remote monitoring by being close to the actors working remotely. It is undeniable

that digital transformation and virtual communication have become very important at the moment, as they have taken their toll in different countries and to varying degrees. Specifically in Morocco, digital transformation has allowed for the shortening of decision-making processes and this refers to the reactivity and speed of organizations. It is necessary to recall that the period of confinement made travel and gathering impossible. Hence the need to use new digital solutions (Zoom, Googlemeet) to facilitate meetings and video conferencing. The use of these new organizational practices is necessary to ensure organizational resilience and agility in order to deal with emergencies and future crisis situations. This dimension of flexibility has also taken place through teleworking which allows for a reduction in state costs (office supplies, electricity) with greater autonomy to prepare for a better future. These new management mechanisms are now part of our culture and habits even in a post-COVID situation as long as our activity allows it. Therefore, telework can continue without acceleration, and we should also focus on training staff to make them multi-skilled and thus plan for the future. Barrier measures should also be implemented in all workplaces to protect staff in the most sensitive sectors, such as health care, more than ever before. In sum, organizations need to exploit the potential of these new technologies, changing their current model to adapt quickly to changes in the environment and contribute to performance.

To this end, agility enables organizations to adapt intelligently to changes in the environment. To become more competitive and efficient, one should face a constantly changing environment. The new paradigm called "organizational agility" seems to be the best option to survive and thrive in a dynamic environment. Human resources are the key to the success of agility. It is worth noting that employees need to develop dynamic capabilities in order to evolve in a changing environment and thus contribute to the development of organizational capabilities through digital transformation, which allows the current model of organizations to be changed to adapt to the perpetual and uninterrupted evolution of the environment.

2.2 Digital transformation as a catalyst for organizational agility

Today, organizations are evolving in a rapidly changing environment marked by the introduction of new technologies. In this respect, digital transformation is a major source of disruption, in addition to the increasing demands of customers and users and the changing competitive landscape. In order to survive and remain competitive, all organizations, whether international or national, need to adapt to and even anticipate these changes. To do so, organizations need to develop organizational agility and resilience in the context of digital transformation. From this point of view, it is a question of integrating technological innovations into the organization's operational model in order to create value and become the most efficient. Except that the latter can affect all aspects of human life (Stolterman & Fors, 2004), since it represents an essential link and a lever of change by excellence whether on the social, political or even economic level. Like other countries, Morocco is not immune to the wave of digital transformation. It has placed a lot of emphasis on digital transformation, in order to modernise all its structures at all levels in order to adapt to the context of permanent change. However, the most recent health crisis caused by the "Covid 19" pandemic has highlighted the importance of accelerating the digitalization process as a lever for its transformation, in order to facilitate access to services for users in such a situation. The occurrence of the health crisis caused by the spread of the Covid-19 virus has made the use of new technologies the best solution to ensure business

continuity and timely delivery of services a major obligation. Certainly, the Covid19 health crisis has accelerated the digital transformation of traditional organizations at all levels in order to continue their activities whatever the circumstances. Moreover, this digital transformation is not a technical approach, based only on the introduction of digital technologies, but it goes beyond that to make a fundamental and particular change in the organization as a whole. It is true that digital transformation offers many sources of value creation, both for back-end and front-end activities, and is classified internationally as the 4th international revolution, but this is not enough to ensure sustainability in a context of increasing environmental uncertainty (Soto-Acosta, 2020). It should be emphasised that digital transformation has become a universal phenomenon and a major concern for decision-makers in all fields of activity. This digital transformation has revolutionised the organization and with the acceleration of the use of new technologies this disruption will increase further, as digital is no longer an option, but rather a determinant of the performance of organizations and a catalyst for organizational agility. In the same sense, digital transformation is described as a radical change in the organization driven by new technologies (Hinings et al., 2018). This change is extended to the organizational model as a whole and allows for a shift from a classical model to an agile model via digital transformation. Digital transformation is no longer seen as a cost, but rather as a real lever and imperative for the competitiveness and performance of any organization on a global scale. In order to better understand this protean concept, we consider it necessary to focus on the history of the concept of digital transformation before presenting a rich repertoire of definitions of this concept. Indeed, the concept of digital transformation is not new.

(Patel and McCarthy, 2000) argue that digital transformation "first appeared in 2000". In the same vein, (R. Reix, 2002) in turn, asserts the importance of using digital transformation given that "information technology is fashionable, and this fashion persists ! The dominant discourse on the ability to transform organizations also persists". Thus, this strategic positioning of the concept of digital transformation at the present time is also affirmed through the review of the literature dealing with this concept, which is very abundant. It is certainly one of the most widely discussed concepts in the world of management science research, except that the theory does not currently allow a single definition to be given that is commonly accepted by researchers. In other words, this concept of digital transformation lacks a clear definition. In addition, this concept is still protean, with some practitioners characterising it as "changes induced by digital technologies in all aspects of human life" (Stolterman and Fors, 2004). To this end, we will not reduce the concept of digital transformation to a simple digital and electronic medium, but we will go beyond it since it has taken on a more profound restructuring of customer relations, strategies, managerial practices, mentalities, and even processes. While (Lemoine, 2014) defines digital transformation as "a combination of automation, dematerialisation and reorganisation of intermediation schemes". Ipso facto, academic publications on digital transformation are growing rapidly, including the words of (Orlikowski and Scott, 2016 ; Faraj et al., 2018), which attest to 'the strong potential for transformation and reconfiguration of digital technologies on organizations is encouraging researchers to develop scientific work in this field'.

This definition seems to us to be more or less complete insofar as it makes it possible to highlight the importance of the radical change driven by the introduction of ICT as well as the obligation to adapt to the current situation, to the context of permanent change, such is the objective of organizational agility. However, the scope of

this digital transformation includes the automation of tasks (Parviainen et al., 2017), the improvement of the relationship and the citizen experience (Reis et al., 2018), low-cost communication (Mimeche, 2016), the dematerialisation of certain tasks (Legner et al., 2017), the streamlining of administrative procedures (Parviainen et al., 2017) and finally the real-time sharing of information (Mimeche, 2016). This continuous acceleration allows, on the one hand, the possibility of creating value in organizations as well as improving performance. In the same vein, this evangelisation involves the organization in part and also the other part, namely the users, so that there is a faster and more accurate interaction of all data. The result will be operational dashboards that facilitate the work of professionals while analysing citizen/client data in real time in order to make the best decisions at the right time. The future organization, called innovative and agile, will then be able to give the actors the opportunity to consult all the data of the users, and at the same time reduce the number of comings and goings as a lever for improving the quality of their care. Let us always remember the circumstances of the unprecedented health crisis "Covid19", which pushed organizations to adopt digital strategies in order to deliver the most complete and fastest services to users and avoid their confrontation while developing a certain organizational agility in order to adapt to the crisis context. Indeed, processing a massive volume of user data on a digital platform allows for a perfect coordination between administration-citizen/business-customer, while ensuring access to the latter's information in real time. At present, (2.0) users prefer not to wait for long hours, but rather to be directed to digital platforms for immediate services. However, digital transformation must be accompanied by dynamic capabilities in transforming the organization in all its dimensions to be responsive to the ever-changing environmental dynamics. Other opportunities of digital transformation include increased productivity for many companies with improved working practices and consequently the improvement of the country's economy. We also note the progressive learning of IT by the users.

As well as the primordial position of citizens who are at the heart of all digital transformation strategies since they now have the right to interact with the company/organization. (Colin and All, 2015) argue that "Communication has become two-way and interactive, it no longer goes from the company to the customer, but the latter also has the possibility to respond, react, speak, express an opinion or dissatisfaction. Today's citizens demand information and an immediate response to their requests. And the new digital technologies have allowed "a better digital interaction modifying both the relationships and the interactions between customers and the company" (Li, 2005). This communication with the customer can only become "more personalised and possible through an increasing number of social platforms" (Westerman et al., 2011). Among the scopes of digital solutions, they remain "cheaper and offer more benefits, allowing overall reduction of organizational costs" (Bharadwaj et al., 2013). The virtualisation of work processes is one of the real potentials of digital transformation. Employees are now entitled to "share their knowledge via virtual platforms thus reducing costs" (Huang et al., 2012 ; Nambisan, 2002) as a major determinant of the development of organizations. Aware of the importance of the potential offered by digital transformation and according to a study conducted by Haussman Executive Search2, 90% of CAC 40 companies have appointed a Chief Digital Officer in their entities in order to accompany this wave of digital transition. However, digital transformation is currently undergoing an unprecedented evolution both nationally and internationally. It is indeed an evolution from change management to the ability to change in the digital age. Thus, the most recent models discussed in the literature place greater emphasis not on change management alone in a digital transformation framework but on the

organizational capabilities that enable the organization to react and be proactive in the face of environmental upheaval (Rondeau, 2008). Certainly, the success of digital transformation depends on the conditions created by the organization to exploit the technological potential, and to adapt quickly to market changes.

To this end, cultural transformation and training are necessary for organizational agility (Koscheyev et al., 2019). Achieving organizational agility depends on the ability to explore and exploit company resources. Digital transformation is a complex process, and its success is linked to the formulation of a digital transformation strategy. To this end, the transition to a digital business model is surrounded by uncertainty and to meet this challenge, a range of strategic issues must be considered, and the leader must be responsible for formulating a digital transformation strategy that responds to the context in which the company operates. It should be noted that the elements to be taken into account in the formulation are : the use of new technologies, the change of value creation processes, the change of organizational structures and the financial dimension (Hess et al., 2016). Thus, the implementation of the digital transformation strategy implies a change in business lines and competences, with the support of the CEO, without forgetting the central role of the CIO and the Chief Digital Officer, and the leadership competences. Furthermore, digital transformation is about transforming the organization's business model by using new technologies to deliver new customer value (Berman, 2012). The literature on supporting digital transformation emphasises two aspects. On the one hand, an internal aspect relating to the role of strategy, dynamic capabilities and the use of data. On the other hand, an external aspect which is the change in the value creation process. Furthermore, digital transformation is a structural change, which requires collaboration between different stakeholders in order to achieve this transformation (Kraus et al., 2022). We would like to point out that the support of change towards an agile organization requires several approaches to digital transformation.

Indeed, the transition from a traditional organization to a flexible organization must be accompanied by a systemic approach based on agile methods, through the deployment of new modes of operation, technology and user experience, by setting up collaborative work tools and a teleworking space, an autonomous and multi-skilled team, a profound change in the information system, while improving the user experience in order to create the conditions for the development of agility and collective intelligence (Le Cam & Lé, 2017). To this end, digital transformation is a continuous process of using new digital technologies in the daily life of the organization, and agility is considered the key mechanism for strategic change, new business model, collaborative work and digital culture (Warner &Wäger, 2019). Furthermore, the adoption of agile methods allows for the rapid implementation of models for driving digital transformation. In this perspective, several models have been developed in recent years by theorists and practitioners.

3. Objectives and research questions

The objective of our scientific article is twofold. The first is theoretical in nature and aims to address the fragmentation and scarcity of research on the conceptual triptych of organizational change, digital transformation and organizational agility. Our second objective is to test the proposed conceptual model in an empirical framework and to identify the conditions for the success of the digital transformation process towards organizational agility. Thus, the research question we wish to answer is : "How can organizational change via digital technology enable

organizations to develop agility in the face of crisis situations ? We will also attempt, via our scientific contribution, to provide an answer to the two research hypotheses which follow from this :

H1 : Digital transformation is not limited to the simple introduction of NT, but involves a profound reorganization of the functioning of an organization as a whole.

H2 : In the face of environmental disruptions, digital change is insufficient and we need to move on to agile change.

4. Methodology

We will try to highlight the epistemological positioning and the methodology adopted in this section. Firstly, we will define what epistemology means as "the critical study of knowledge, its foundations, principles, methods, conclusions and conditions of admissibility of its propositions" (Legendre, 1993, p. 549). Based on this definition, epistemological reflection can be deployed in four dimensions, namely: an ontological dimension, which questions the nature of the reality to be known; an epistemic dimension, which questions the nature of the knowledge produced; a methodological dimension, which concerns the way in which knowledge is produced and justified; and finally, an axiological dimension, which questions the values carried by knowledge (Allard-Poesi & Perret, 2016). The literature on epistemology highlights three main epistemological paradigms: positivism, interpretativism and constructivism. In our case, we opt for the positivist paradigm, which assumes the existence of a reality that is independent of the researcher, whether or not the latter seeks to apprehend it. The observed reality responds to its own laws based on causal relations. This is the principle of sufficient reason Leibniz, (1710, p. 104) in Moigne (1990), according to which "nothing ever happens without there being a cause or at least a determining reason". According to D'Amboise, (1996), the knowledge produced will not be affected by the perception of the researcher according to the principle of objectivity, "there is only one concrete reality, independent of any opinion, waiting to be discovered and explored". For positivism, there are three criteria of validity: verifiability, conformability and refutability. In other words, positivism considers the existence of a reality from which knowledge is derived, as Lapointe (1996, p. 10) indicates: 'this paradigm postulates the existence of a stable reality, external and independent of the subject. This reality can be apprehended through scientific experience or the experimental method. The resulting knowledge is then considered to mirror reality.

The criterion of fidelity between the knowledge thus generated and the external reality becomes the indicator of validity or scientificity of the knowledge. According to the literature on research methodology, methodology is defined as the study of the methods used to create knowledge, and qualitative approaches can be used in research projects from positivist, interpretative or constructivist perspectives. In our work, we will opt for quantitative approaches, which are in line with our epistemological positioning and which are mainly used to test theories within the framework of a hypothetico-deductive approach. The main objective is to describe a population, explore or test causal relationships. Moreover, the results obtained can be generalised to the population under certain conditions, notably the size of the sample. Multivariate quantitative analysis: regression, Logit, PLS, LISREL,

HLM... depending on the model tested. It should be emphasised that this is a theoretical paper based on a funnel study to better assimilate the concepts of organisational change, organisational agility and digital transformation which we have structured in a conceptual model that will be presented in the results section.

5. Results

In the result part, we will try to highlight a theoretical model from the literature to drive digital transformation, which consists of analysing the impact of digital transformation on the organization and deciding the position to occupy, examining the current state of the organization in relation to the desired state, defining the approach to adjusting this gap, and the concrete actions to reach this position, and finally implementing and validating the actions and going back to the previous steps. In effect, these are the following steps : (1) positioning the organization for digital transformation, (2) defining the impact, drivers, scenarios and objectives, (3) reviewing the current state, (4) establishing a roadmap for digital transformation, (5) and finally implementing the change and supporting it technically. We can conclude that there is not one ready-made approach to digital transformation that can be deployed in all organizations, but that should be adapted to the context of the organization in question (Parviainen et al., 2017). In the same vein, the transition to a digital organization challenges the so-called traditional ways of operating, which requires the development of dynamic capabilities, i.e. the organizational and managerial skills to lead the change necessary to ensure its sustainability in the face of environmental disruptions. These are entrepreneurial skills (exploiting and exploring the potential of new technologies), IT skills (determining a proactive strategy) and finally organizational skills. Indeed, the theory of dynamic capabilities highlights the origin of the concept of dynamic capabilities, which stems from the consideration of two fundamental notions : path dependency (Nelson and Winter, 1982), and innovation. We can define dynamic capability as the ability to integrate, build and reconfigure internal and external competencies to respond to rapid changes in the environment. Referring to Prahalad and Hamel's (1990) theory of competencies, a strong link has emerged between the organization's success in innovating and adapting to the environment and the development of dynamic capabilities, based on agile methods instead of organizational routines and rules, These dynamic capabilities are related to the strategic response capability related to proactivity in the face of market changes, an autonomous and diverse team, and the operational response capability related to the organization of work to anticipate change (Cohard&Messeghem, 2022). In addition, and according to the theory of structural contingency, Burns and Stalker have revealed the impact of the environment on the structure of the organization and its importance in driving organizational change in a context of digital transformation.
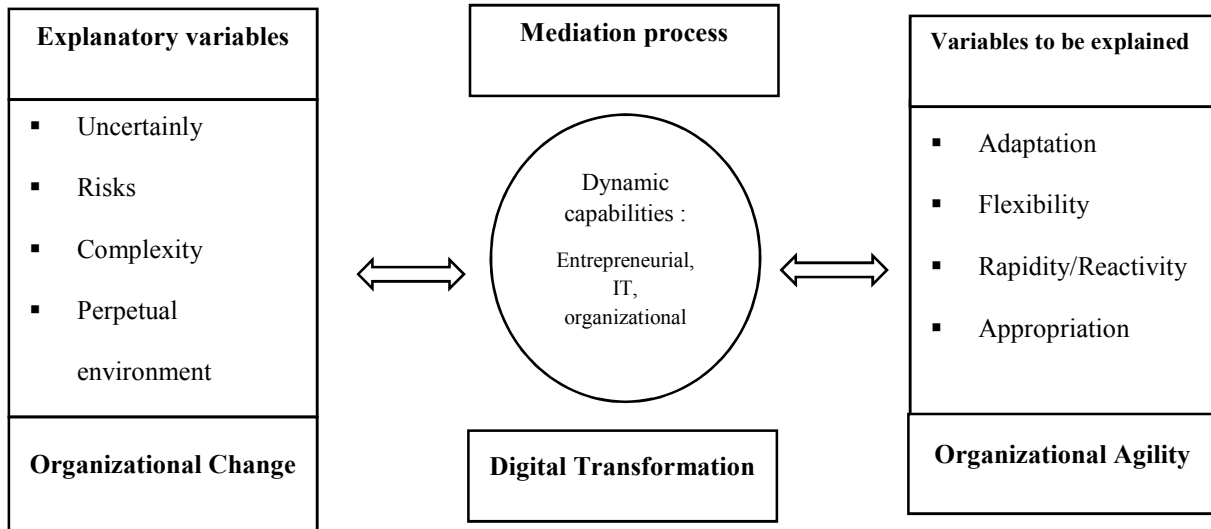
Indeed, there are two types of organizational structures, on the one hand, a traditional organization based on complex, formalised and centralised mechanistic structures, routine tasks, rationalised and specialised work, decisions taken from the top and organizational change takes on a planned nature. On the other hand, there is a more flexible organization based on dynamic organizational structures, expertise and knowledge development, collaborative work, decisions taken at a decentralised level and the nature of change becomes emergent (Plane,

2017). In the same vein, and according to the literature on the relationship between the environment, technology and the organization, IT capacity appears to be a factor that favours the implementation of a proactive environmental strategy (Benitez-Amado &Walczuch, 2012). Furthermore, IT capacity has positive effects on the implementation of proactive environmental strategies and that these IT-based strategies could also result in competitive advantages (Do et al., 2022). Similarly, empirical analysis confirms that there are positive relationships between the implementation of a proactive environmental strategy and firm performance, that IT capability is a good determinant of this strategy and that there is a positive predictive relationship between IT and superior firm performance through the exploitation of this environmental strategy (Benitez-Amado &Walczuch, 2012). However, the transition from a digital to an agile organization does not have to be at the sacrifice of traditional activities. In this perspective, an ambidextrous organization allows to lead the change towards an agile organization in a context of digital transformation. Indeed, the ambidextrous organization constitutes a response that combines the effective and efficient exploitation of the organization's traditional activity with the exploration of new opportunities linked to new technologies. In a digital context marked by the implementation of innovation projects, the ambidextrous organization offers the conditions for successful digital transformation (Plane, 2017). The conceptual model presented in the figure below highlights three key interrelated concepts. According to (Kotter, 1997) organizational change can be defined as an adjustment between the status quo and the desired state, with an effort in leadership and culture. Thus, organizational change via digital, is achieved according to a systemic approach (Le Cam & Lé, 2017) of digital transformation based on new ways of working (team, collaborative work, teleworking); technology (deep change of the IS); and user experience (new added value). Whereas organizational agility, which is rooted in the framework of contingency theory and human relations, is based on the principle of the responsiveness and flexibility of organizations and their actors in a world that is in the throes of disruption and that is interconnected. The challenge now is a big one, as organizational agility is then facilitated by certain managerial and organizational conditions. In the first place we have leadership that encourages employees to collaborate, be curious and autonomous, which facilitates organizational agility. From an organizational perspective, structure, technology and culture impact agility. The reduction in hierarchical structure and the blurring of cross-functional boundaries encourage employee autonomy and cross-functional collaboration. In addition, information technology, together with changes in organizational processes, facilitates the exchange of assets and the transfer of information. Finally, the innovative culture, based on openness, curiosity and tolerance of uncertainty, impacts on the organization's alertness. Cronin (2000); Tapscotte et al. (2000); Treacy and Wiersema (1993) argue that agility is recognised as an organization's ability to manage uncertainty, it encompasses a company's capabilities related to interactions with customers, the orchestration of internal operations and the use of its ecosystem of external business partners. Specifically, we argue that agility is based on the entrepreneur's ability to harness and explore the potential of new technologies, and flexible structures to drive rapid change, by adopting a start-up mode of operation that encourages emergent change through experimentation and learning rather than imposing change. However, for complex organizations their orientation towards agility is often difficult and involves high costs due to the investments to be made, which puts the efficiency of the organisation at risk, and therefore to achieve organizational agility the entrepreneurial manager has to combine between flexibility and efficiency (Teece et al., 2016). At present, and according to the works of the literature dealing

with management sciences, and in the framework of organizational agility the resource theory is qualified as the essential reference Penrose (1959) dealing with organizational routines. Furthermore, these dynamic capabilities were first defined in the work of Teece, Pisano and Shuen (1997) as "the ability of the firm to integrate, build, and reconfigure internal and external competencies to adapt to rapid changes in the environment. Thus, dynamic capabilities reflect an ability of the firm to achieve new and innovative forms of competitive advantage, given the positions of the path dependencies" (p. 516). However, it is inescapable that the dynamic capabilities approach relies on routines (Nelson and Winter, 1982) and thus information management, in the sense of assimilation and integration of new knowledge (Durand, 1998; Lansiti and Clark, 1994; Henderson and Cockburn, 1994) necessary for the adaptation of the firm, which needs processes ensuring the reconfiguration of the current resource/capability portfolio, in order to adjust (Eisenhardt, 1989; Helfat et al, 2007) to new environmental requirements in order to maintain or even develop competitive advantage (Eisenhardt and Martin, 2000; Makadok, 2001; Zahra et al., 2006).

Furthermore, we would like to recall the very important role of dynamic capabilities, especially in a more dynamic environment (Teece, Pisano and Shen, 1997 ; Eisenhardt and Martin, 2000 ; Rindova and Kotha, 2001 ; Zollo and Winter, 2002 ; Newbert, 2005 ; Wu, 2007 ; 2009). To this end, agility is seen as a competence beyond the dynamic capabilities of the organization. These competencies are a complex combination of several organizational assets and a source of competitive advantage. By way of consolidation, agility is composed of two dynamic capabilities (Day, 2011 ; Roberts and Grover, 2012) : the first involves the ability to be alert to market opportunities (creating and capturing information by scanning one's environment), and the second takes into account the ability to make decisions based on this information (integrating and assimilating this information, and then using it). Thus, Chonko and Jones (2005) add that there is a difference between these two dynamic capabilities which lies in the fact that : vigilance does not automatically imply relevant action to create opportunities. In sum, we can argue that organizational agility implies sharing information in real time to make the best use of it, and this in a dual intra-organizational framework between those who hold the capacity to be alert to opportunities, and those who make appropriate decisions based on this alertness. Similarly, organizations need to identify the know-how to make the process of adapting to the volatile environment easy. Therefore, organizational agility is of paramount importance in a context of continuous change and is recognised as an innovative managerial concept that is the subject of much discourse by researchers and practitioners. However, methods for assessing and developing organizational agility remain limited, especially in a context marked by the digital transformation of organizations (Industry 4.0).

Figure 1. Conceptual model of research

Explanatory variables	Mediation process	Variables to be explained
▪ Uncertainly ▪ Risks ▪ Complexity ▪ Perpetual environment	Dynamic capabilities : Entrepreneurial, IT, organizational	▪ Adaptation ▪ Flexibility ▪ Rapidity/Reactivity ▪ Appropriation
Organizational Change	**Digital Transformation**	**Organizational Agility**

Source : authors

6. Implications and Conclusion

Today, the organization survives in an environment characterised by rapid technological change and fierce competition. As a result, and with risk and uncertainty threatening the existence and sustainability of the organization, organizational agility is a key response to make the organization flexible, ensuring agile change and continuous adaptation to the changing environment, in order to remain competitive. In the face of uncertainty and the absence of predictability, the requirement for innovation and proactivity becomes necessary (Cohard & Messeghem, 2022). As a result, organizational agility has become a requirement, and the organization needs to embark on a digital transformation, beyond the simple introduction of technology to ensure a profound transformation of organizational practices in a systemic approach based on agile methods. The transition to a digital organization should not be at the expense of existing traditional activities, and therefore an ambidextrous organization is an answer that combines the effective and efficient exploitation of traditional activities with the exploration of new opportunities linked to new technologies. To this end, organizational agility is based on developing dynamic capabilities and operating in start-up mode. However, complex organizations find their orientation towards agility difficult and costly, which puts the efficiency of the organization at risk, so to achieve organizational agility the entrepreneurial manager must combine flexibility and efficiency. In addition, in a disruptive world, the use of digital transformation is an indispensable determinant for the survival and performance of organizations as a whole. Thus, this digital transformation is considered to be a factor of very rapid change. Ipso facto, an organizational culture should also be instilled to facilitate the change process towards a more agile paradigm. However, although organisational agility is presented as a facilitating factor for organizational transformation, its dimensions remain poorly defined in this sense.

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