

Literature review on organizational change and digital transformation

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Abstract—In a fast-moving environment, digital transformation appears to be the main concern of researchers and practitioners worldwide. In order to seize the opportunities offered by new technologies, the organizations must update their organizational strategies by making them agile through digital transformation practices in order to adapt to the context of constant change. As such, we consider digital transformation as a very complex and difficult process to implement. It should be recognized that the objective of our scientific article is to know the relationship between organizational change management models and those resulting from digital transformation. Through this scientific article, we will attempt to research the models of organizational change in a context of digital transformation and this through the establishment of several key success factors to drive organizational change in the digital era.

Keywords— Digital transformation, Organizational change, Change management models, Key success factors.

I. INTRODUCTION

Today, organizational change is one of the most pressing issues facing organizations. We note that more than 60% of change projects have failed. To this end, the best approach is the digital transformation, which is becoming increasingly important for researchers and practitioners on a national and international scale. The current context is characterized by its rapid and unpredictable change, characterized by the evolution of technology which is considered as a major source of disruption without forgetting the soaring demands of users who accentuate more and more the competition. In order to remain competitive, organizations are called upon to adapt to the context of change by taking the path of technological innovations or what is called digital transformation. Digital transformation is characterized as the integration of technological innovations into the organization's business model to create value and improve performance (Stolterman & Fors, 2004). This means that digital transformation impacts all aspects of human life and remains a fundamental determinant of change at all levels, whether political, economic, etc. Morocco is one of the first African countries that have resorted to digital transformation, whether in its public or even private structures, with the aim of modernizing its structures by making them more agile in the face of the often opaque context of change.

In addition, the latest global health crisis, the Covid19 pandemic, has demonstrated the importance of using digitalization to facilitate access to services under any circumstances. To this end, we can note that digital transformation is one of the major concerns of all decision-makers since it provides a strategic leverage effect allowing a radical improvement in the functioning of an organization with a high added value for all its stakeholders (Gong & Ribiere, 2021). In order to better seize the opportunities of digital transformation, organizations are called upon to change their current model to make it more agile in order to face the context of increased disruption. This continuous evolution of the environment makes organizational change as a complicated project to implement, but one that remains essential to ensure the sustainability of organizations and create value (Kotter & Schlesinger, 2008). The literature proposes different models of organizational change and our objective is to determine their capacity to lead this very complex change in a more complex context, that of digital transformation. Through our scientific contribution, we will seek to provide a solution to the following research question: Do the organizational change management models proposed by the literature allow to drive the digital transformation?

It should be recalled that the main objective of our scientific contribution is to establish a link between the different models of organizational change from the literature and their ability to drive change in a context marked by the industry (4.0). To meet our objective, we will try to validate the following two hypotheses

H1: Digital transformation gives rise to organizational change;

H2: Organizational change models are able to drive the industry (4.0).

II. MOTIVATION & METHODOLOGY

A. Motivation

The main goal of this literature review is to clarify and shed some light on the concept of organizational change and digital transformation. To do this, we will start by identifying the definitions in the literature, and all challenges of digital transformation.

Based on what we said before, the value of this paper can be presented as follows :

- In the first part, we will review the literature on the concept of digital transformation, with its opportunities and challenges.
- In the second part, we will deal with the concept of organizational change to weave its link with digital transformation.
- The third and last part will be devoted to the comparative analysis of the different models of change management, as well as their ability to drive digital transformation.

B. Methodology

In order to identify the models of organizational change, we conducted a literature review on organizational change, following a comparative approach. The question of this literature review seeks to answer: do the organizational change management models proposed by the literature allow to drive the digital transformation? After determining the research question, we conducted a search on the Scopus database, using the keywords: digital transformation, organizational change, change model, change management. The result of the search showed a diversity, to section the most relevant articles for our research, to this end we adopted a refined search taking into consideration criteria such as, the keywords of the search, the type of document concerns only peer-reviewed articles, the reference authors and the number of citations. This selection process leads us to build a database composed of 120 documents. In addition, we performed further searches on other databases.

III. LITERATURE REVIEW

A. Digital transformation

In this first section, we will try to understand the definitions related to the concept of "Digital Transformation" with a presentation of its scopes and constraints.

- Definitions :

No one can deny that digital transformation is a universal phenomenon and a major source of concern for all managers regardless of their profile. It has revolutionized the organization of public and private sector entities. It should be emphasized that digital transformation is no longer an option but rather an imperative that determines the performance of organizations. It is an excellent lever for competitiveness at all levels. Therefore, it becomes judicious to take stock of the starting point of digital transformation by shedding light on its history. The concept of digital transformation was born in the 2000s, but it's one of the most discussed concepts in the literature review at the moment. However, this concept lacks a universally accepted definition by theorists. We will try to define it in our opinion by putting it in a broader sense, more extended to a simple digital support but a primordial lever allowing a very deep remodeling of the organizations in their globality (all processes). Regarding the (Lemoine,2014), he defines digital transformation as "a combination of automation, dematerialization and reorganization of intermediation schemes. (Reis et al,2018) in turn categorize the definitions of digital transformation as follows. This definition refers to technology, and which is based on "the

use of new digital technologies such as social networks, mobile technology, analytical or integrated tools" (Fitzgerald et al.,2013). A second definition has been proposed but this time is related to the organization that "requires a change in business processes or the creation of new business models" (Ross et al.,2016). In fine, there is a last definition that touches the social dimension by defining it as "a phenomenon that influences all aspects of human life" (Matt et al.,2015). It is worth noting that this definition was supported by the words of (Fors and Solterman,2004), and they argue that digital transformation is defined as "changes, which digital technology causes or influences in all aspects of human life".

- Summary of the definitions :

By way of synthesis, all the definitions allow us to give birth to a global definition of digital transformation that calls for the use of digital solutions to make the organization's activity highly efficient while impacting all dimensions of the lives of individuals . According to the advances of (Badri,2018) he perceives the digital transformation "as a major asset that operates on three essential levels namely the Business model, The business process and the customer journey which are based on three essential steps namely: Involvement of the government to put in place an adequate regulatory framework; Establishment of an active and responsive ecosystem; Optimization of access to tools and technologies enabling digital transformation. Thus, the digital transformation passed by two levels. The first level concerns "external transformations centered on customers and internal transformations centered on products and processes". It is worth mentioning that this definition highlights the context of disruption that organizations are facing. More clearly, it is about confronting a context of "rapid and radical change due to the maturation of digital technologies and their pervasive penetration in all markets" (Ebert et al.,2016). In the face of fierce competition, organizations are obliged to remain competitive by developing a capacity for adaptation and renewal in a context of digital transformation, while "seeking to exploit the contribution of digital transformation" according to (Bharadwaj, 2010). By way of consolidation, the concept of digital transformation has become central to all new policies based primarily on technological innovations.

- The scopes of digital transformation:

The digital transformation allows unquestionable and unprecedented opportunities for organizations, whatever their field of activity, to make them more efficient. In addition to reducing costs, we can cite the increase in productivity of several entities and consequently increase the economic development of countries. Today, (Colin and All, 2015) argue that "Communication has become two-way and interactive, it no longer goes only from the company to the customer, but the latter also has the opportunity to respond, react, speak, express an opinion, an opinion or dissatisfaction. The demands of citizens are increasing and they want answers to their requests, and digital transformation allows "a better digital interaction modifying

both the relationships, and the interactions between customers and the company" (Li, 2005). There are also other benefits of new technologies "that are less costly and offer more advantages, allowing for an overall reduction in organizational costs" (Bharadwaj et al., 2013). Add to this the fact that employees today are allowed to "share their knowledge via virtual platforms thus reducing costs" (Huang et al., 2012; Nambisan, 2002).

- Challenges of digital transformation:

Even though digital transformation offers several benefits, except that there are some constraints that lie behind. (Bounfour and All, 2015) to this effect, states that "the challenge is that digital technologies participate in improving the processes of value creation, while taking into account the management of risks and technical performance". The digital transformation has generated several risks, whether technological, social or even economic. We start with the technological issues generated by automation. We find the problem of confidentiality and exploitation of data that require the use of cyber security strategies to maintain the right relationship. We move on to the presentation of economic and social issues that affect the appropriation of digitalization by all actors. According to Grimand (2012), the appropriation of digitalization by the actors is "one of the essential conditions for a return on investment in the use of digital technology by employees, managers and leaders of organizations". It is also worth mentioning the lack of skills and technical knowledge of employees in the field of digitalization will not allow the successful implementation of digital strategies, hence the importance of providing training sessions and support. We also mention the difficulty of access, old people are the most concerned by this constraint. In order to succeed in the digital challenge, we will propose some recommendations:

- Start by strengthening the legislative and legal framework;
- Provide targeted training;
- Integrate the digital transformation in all the working devices;
- Engage all the necessary means to ensure the success of this digital transformation.

(Bilgeri, Wortmann, & Elga, 2017), (Hartl & Hess, 2017), (Heilig, Schwarze, & VoB, 2017), (Mueller & Renken, 2017) emphasize that "digital transformation represents organizational change, major driven, built, or enabled by digital technology, that changes the way business is conducted. These organizational changes impact the different processes of organizations whether internally or externally. For, according to (Karimi & Zhiping, 2015) "Digital technology, innovation, and digitization are fundamentally changing business processes, products, services, and relationships." This digital transformation "has brought new disruptive changes to the economy" (Nylén, 2015), due to "digital technology and digitization, environmental conditions are changing rapidly" (Osmundsen, Iden & Bygstad, 2018). After defining what the concept of "Digital Transformation" means, which is according to (Hanelt et al., 2021) "which is qualified as an organizational change

guided by technological innovations". We will try to answer the following hypothesis in the following section:

H1: Digital transformation leads to organizational change.

B. Organizational change concept

- Definitions :

The emergence of new computer technologies has occurred in the last twenty years, and the concept of change has also emerged in the same epic. In order to remain competitive and to respond to both internal and external challenges, organizations must adapt to the context of unpredictable change by developing adaptive capabilities in order to improve effectiveness and efficiency and subsequently guarantee their survival. It should be noted that the concept of change is qualified as a vague concept that lacks a unanimous definition, but that varies in the time parameter. It can be qualified as a process of reform, renewal etc. We will propose a repertoire of definitions from the following theorists in the table below:

Authors	Change definitions
(Haned et al., 2007 ; Hansske et Delerue, 2006)	Seek to see change as a process.
(Carton, 2006)	Change is a dynamic process whose objective is to understand a dysfunction and to mobilise all individuals to serve the organisation.
(Kotter et Cohen, 2002 ; Bareil, 2004).	Of course, the human factor is the main key to successful change, but it is also one of the biggest "causes of failure".
Collins & Porras (2000)	Insist on the need for a real vision of change that distinguishes the stable from the evolving in an organisation and that allows for the direction of change action.
(Vandangeon-Derumez, I., 1998).	Change is nowadays the rule and stability the exception
(Pettigrew, 1987),	Considers change as a phenomenon that brings together three parameters: context, content and process.

Table 1: Definitions of the concept "Change

Source : CHAANOUN, J., RAHMOUNI, A., & ALAOUI, M. (2022). Le changement organisationnel et la transformation digitale : Quelle relation ? Revue internationale de comptabilité, finance, audit, gestion et économie, 3 (5-1), 63-86.

Through the history of organizations, (Van de Ven and Poole, 1988;36), define organizational change as " an empirical observation of differences over time in a social system and also a progression of events that takes an existing entity over a period of time from an initial state to its final state or destination". Organizations are obliged to innovate and adopt new managerial practices in order to cope with the context of rapid change and consequently accompany globalization. We then go through the following definition of organizational change "as the passage from an initial state to a desired final state". The last section will provide an answer to our research problem, which is the following: do the organizational change models from the literature allow us to conduct a digital transformation?

- Digital transformation and organizational change relationship:

We note that the literature review has allowed us to give a definition commonly accepted by researchers of the concept of digital transformation from the perspective of organizational change. We then go through the definition of (Gong & Ribiere, 2021) which states that "Digital transformation is a process of fundamental change, made possible by the innovative use of digital technologies accompanied by strategic leverage on key resources and capabilities, aimed at radically improving an entity and redefining its value proposition for its stakeholders. To this end, it becomes necessary to highlight the different dimensions of the concept of organizational change:

- Digital transformation implies a strategic change:

New technologies have revolutionized the whole world. And organizations are called to face the challenges of integration and exploitation, and must formulate a digital transformation strategy that includes the following elements namely: the use of new technologies, the change of value creation processes, the change of organizational structures, the financial dimension (Hess et al., 2016).

- TD implies a change in jobs and skills:

It should be noted that new technologies impact the designation of work and leadership (Schwarz Müller et al., 2018). In addition, the integration of new technologies has led to the creation of the position of Chief Digital Officer (CDO) (Haffke et al., 2016). As well as the expansion of the role of the Chief Information Officer (CIO) to a conductor (Kohli & Johnson, 2011).

- TD from the perspective of its process:

It is a process that puts agility as a core mechanism for strategic renewal of (1) business model, (2) collaborative approach, and finally (3) culture of an organization (Warner & Wäger, 2019). TD is about transforming the business model using new technologies to deliver new customer value (Berman, 2012). Thus, the merging of these three independent variables ensures the performance of organizations in the context of industry (4.0).

C. *The relationship between organizational change models and the conduct of digital transformation*

The abundant literature dealing with the concept of organizational change gives rise to a panoply of prescriptive models for conducting organizational change according to different types: planned, imposed or contingent.

- Models of organizational change put forward by the literature:

We will present a set of models for conducting organizational change according to different approaches to change, allowing organizations to choose the approach best suited to their context.

- Lewin's model (1947): he proposes a model of change comprising three phases: Unfreezing, Moving, Freezing. 1: The phase of the deconstruction of norms, according to Lewin the balance must be destabilized to get rid of the old practices, it made possible thanks to the discussion of the group. 2: The phase of transformation, the change will take place by the reduction of the forces of individual resistance by

experimenting the new practices. 3: The phase of the reconstruction, that is to say the stabilization of the organization to a new balance by integrating new practices (Burnes, 2004). The role of the group in driving change, it is possible to change an individual's behaviors by sharing practices within the group to which they belong.

- Beer's model (1980): this theorist developed a change management approach composed of six phases. This is presented as follows: (1) Mobilize commitment to change through a clearly defined problem situation. (2) Develop a common vision of the object of change, defining new roles and responsibilities in order to remove functional and hierarchical barriers to information sharing and problem solving. (3) Foster consensus around the new vision, competence to implement it, and cohesion to advance it. This requires strong leadership from the executive director. (4) Spread the revitalization throughout the departments without pushing it from the top. (5) Institutionalize the change, integrating it into formal systems and structures. (6) Monitor the change, adjusting it as problems arise, creating a learning organization to adapt with the changing environment (Beer et al., 1990). The role of top management (with strong leadership potential) in creating the conditions for change (alignment of the vision with the main task), by modifying roles and responsibilities and working relationships, will force learning and the acquisition of new skills, creating a sense of effectiveness. Changing coordination patterns leads to participation, collaboration and information sharing. Beer's model encourages change without imposing it. Organizational change is a unit-to-unit learning process rather than a series of programs to be imposed.
- PETTIGREW's model (1985, 1987): His model presents three major variables, namely: the internal and external context which designates the economic, social and political environment as well as the organizational structure of the institution. In second place comes the concept of content which in turn allows a true formulation of the process of change which is ultimately the third parameter of a very complex nature " (Chaanoun. J & Alaoui. M, 2022).
- Armenakis' model (2009): He proposes the following 4-phase model: (1) The phase of effective organizational diagnosis which consists of identifying the problems and their root causes. (2) The phase of creating a state of readiness for change as a cognitive precursor to resistance behaviors. (3) The phase of change adoption by the beneficiaries by taking into account the five beliefs that promote adherence to change. (4) The phase of institutionalization of the desired change with an emphasis on the strategies that leadership can use to influence these beliefs and anchor the change in behaviors (Armenakis & Bedeian, 1999; Armenakis & Harris, 2009).
- Kotter's (1996) model: developed an eight-phase model for leading change. (1) create a sense of urgency by diagnosing the environment to identify

threats and opportunities. (2) build a powerful coalition, creating a team with a shared commitment and sufficient power to lead the change effort (3) Develop a future vision to guide the change effort and a strategy for achieving that vision. (4) communicate the vision using whatever means necessary (5) inspire action by changing structures and encouraging initiative (6) generate short-term wins to reinforce the implementation of change, rewarding contributors to improvements (7) consolidate success to boost the legitimacy of the change, and re-energize the change with new actors and projects. (8) anchor the change to the organization's structures and systems (Kotter, 1997, 2006). Kotter's model of the role of managers in leading change.

- Autissier and Mautot's model (2015): They developed a model of change management composed of three phases: define, experiment and anchor. (1) Definition begins with a diagnosis of the context using workshops with stakeholders. (2) The experimentation of the change in the workplaces in the form of workshop cycles in collaborative mode. (3) Finally, the last phase consists of anchoring the accumulated learning experiences on change in the daily management of the organization (Autissier et al., 2018).

We present the following table that provides an overview of the different change management models:

Key success factors	Irwin (1946)	Beer (1980, 2009)	Coopend (1997)	Imagie (1991)	Adson (1991)	Kanter et al. (1992)	Kanter (1996)	VanDujop (1999)	Hart (2006)	Amann et al. (2005)	Autissier et Moutot (2015)
Diagnose the external and internal context		Triggering change through problem	Awareness of the need for change	Change analysis and planning	Analysis of the organization and the need	Create a sense of urgency through a	Create a sense of urgency through a		Awareness of the need for change	Organizational diagnosis	Define
Promoting for strategic change	decentralization		Evolution of the behavior without modification of	Evolution of the behavior without modification of	Create a sense of urgency	Building a powerful	Building a powerful	Maturation		Creating a state of readiness for change	
Create a change management entity			Plan and set	management shared vision and common direction	Get	Creating a vision	Creating a vision				
Create a vision and a strategy for change		Develop a common vision	The future		The separation of the past						
Communicating the vision		Build consensus around the		Communicational on change	The role of the future	Communicate the vision	Communicate the vision				
Involve	Transformation	Promoting change without	Employee	Acceptance of the change and the communication	Create an action plan, communication, strategies to			Uploading	Developing the change	The adoption of the change	Experiment
develop learning			SKILLS management			To offer the means to set on the vision	To offer the means to set on the vision		Knowledge and capacity for change		
Enable or contingent institutionalized in the change	The recognition	Monitor and adjust	Stabilize the change in the formal system	Adaptation with modification of the new	Anchor and reinforce the change	Build on success and process and change to the organization's structures and	Build on success and process and change to the organization's structures and	Rooting		Reinforcing change	Anchor
Types of change mechanisms of change	Planned	Emergent	Individual-Group-Organizational	Emergent	Planned	Planned	Planned	Planned	Emergent	Planned	Agile

Figure 1: Summary of different models of organisational change management

Source :CHAANOUN, J., RAHMOUNI, A., & ALAOU, M. (2022). Le changement organisationnel et la transformation digitale : Quelle relation ? Revue

internationale de comptabilité, finance, audit, gestion et économie , 3 (5-1), 63-86.

It should be noted that the comparative analysis of organizational change models from the literature suggests that these models have undergone a sociological paradigm shift that provides an answer to the following research hypothesis:

H2: Organizational change models enable TD to be conducted.

It is a transition from an approach based on the stages of conducting organizational change to another more appropriate approach based on dynamic capabilities, on the development of change capabilities. These organizational capacities allow us to react in time while being agile to the evolution of the environment.

- Key success factors for leading organizational change in a digital transformation context:

In line with the previous finding, organizations in practice have found the transition to digital transformation extremely difficult for several reasons, including the lack of a standardized implementation model, the focus on introducing new technologies without evaluating their role within the business, the compartmentalization of digital project initiatives from the rest of the business, and the large-scale implementation of digitalization without a realistic view of return on investment (Butt, 2020). In this sense, to drive digital transformation, it is necessary to develop dynamic capabilities and IT capabilities, as part of a contingent approach of continuous use of new digital technologies in the daily life of the organization, whose agility is recognized as a dynamic capability for continuous strategic renewal of (1) the business model, (2) the collaborative approach, and finally the (3) culture of an organization (Warner & Wäger, 2019). In addition to dynamic capabilities, organizations need to develop organizational capabilities in connection with information technologies, because several studies have shown that 'there are positive relationships between the implementation of a proactive environmental strategy and business performance, and that IT capability is a good determinant of this strategy and that there is a positive predictive relationship between technology and superior business performance through the exploitation of this environmental strategy (Benitez-Amado & Walczuch, 2012). In this sense, IT capabilities have positive effects on the implementation of proactive environmental strategies and that these IT-based strategies could also result in direct business benefits (Do et al., 2022). Finally, after outlining the most famous models of organizational change management, highlighting the type of change specific to each model, whether emergent, planned or contingent, as well as the appropriate change levers. Subsequently, we were able to deduce that the evolution of organizational change management from a classical approach to another approach based on agile methods, this leads us to conclude that the conduct of digital transformation by organizational change models is limited, with the exception of the model of (Autissier and Moutot 2015) which allows to drive change in a context marked by a strong orientation towards digital, by

focusing more on the development of dynamic and IT capabilities.

- Identify triggers for change:

According to Weick and Quinn, (1999) The organization introduces change to adjust the gap between its current state and the demands of the environment. Change can be triggered by external and internal factors. External factors, according to Meyer et al, (1990) competitive pressures, technological developments, regulatory changes. Internal factors, antecedents of organizational change, cynical feelings, insufficient technical skills, attitudes towards change (Jack Walker et al., 2007). According to Beer, (1980), Judson, (1991); Kanter et al., (1992) emphasize that a good understanding of the organization is its context, external and internal diagnosis is crucial to identify problems and opportunities. Lewin (1948) and Kotter (1996, 2012) argue that change is triggered by creating a sense of urgency by setting extreme goals at the nexus of a careful diagnosis. On the other hand, StawSandelands and Dutton, (1981); Locke & Latham, (1990); Ashford (1988) their work emphasizes that the situation of urgency can be a barrier to change given the negative effects it creates on recipients such as fear, rigidity, change avoidance and stress. While Cooperrider& Srivastava, (1987) urge on positive experiences of the organization to trigger change (Stouten et al., 2018).

- Assessing change readiness:

In order to assess change readiness, Hiatt (2006) and Kanter et al. (1992) emphasize organizational variables such as the impact of previous changes, pace of change, activities, and resources for implementing change, with the goal of planning the change in a roadmap. Beer (1980) emphasizes the importance of problems, the conditions for change, the degree of support from leaders and the competence of change agents. On the other hand, other authors emphasize individual variables such as beliefs, attitudes and intentions, receptivity, resistance, commitment, cynicism, stress, and beliefs (Armenakis et al., 1993; Armenakis&Bedeian, 1999). When preparing for change, whether individually or collectively, it is essential to consider the affective element (Rafferty et al., 2013). The perceived performance of the change positively influences commitment to the change, while the extent of the change has a negative influence (Michel et al., 2013). Justification for change can help mitigate negative reactions and increase commitment to change (Self et al., 2007). Influencing strategies as well as the importance of change agent credibility and interpersonal and social dynamics in the readiness creation process. Combining the urgency of the needed changes and the readiness of employees, a typology of readiness programs is proposed, including persuasive communication, active participation of beneficiaries, human resource management practices, symbolic activities, dissemination practices, internal and external information management, formal activities demonstrating organizational support for change initiatives (Armenakis&Bedeian, 1999).

- Forming a Change Steering Coalition:

Kotter (1996, 2012) argues that the task of the coalition is to foster a sense of urgency, helping stakeholders understand

the rationale for change, for effective functioning Kotter states that the coalition must develop trust on the part of the beneficiaries of change by using adequate communication media, it needs common goals that incorporates the search for excellence. Judson (1990) emphasizes that the task of the coalition should be limited to advice, and that it should not be directly involved in the decisions of change. Regarding the composition of the coalition, Kanter et al (1992) Beer (1980) show that it should include all stakeholders, especially those who hold decisive power in the change process. Similarly, Cooperrider&Srivastva, (1987) emphasize the competence of coalition members in specific change topics.

- Creating a vision:

Kanter et al. (1992) consider that the vision should indicate the end state of change and incorporate stakeholders. Cooperrider and Srivastva, (1987) the vision represents the future state of the organization. Kotter (1996) the vision must express the objectives to be reached, be achievable for the beneficiaries, be easy to communicate by the leaders, be emotionally attractive and be flexible to allow individual initiatives. Beyond quantitative goals, Beer (1980) considers that the vision must clarify the role and responsibility in change, relevant behaviors and attitudes.

- Communicating the vision:

Hiatt (2006) and Kotter (2005) the vision must be disseminated through multiple channels, in a clear manner, managers must continuously explain the change by words and deeds, while adopting different approaches depending on the target. Beer (1980) emphasizes the role of the leader in the implementation of change, Judson (1991) the role of managers to make the reasons for change understood and elicited the interaction of beneficiaries. According to Beer and Noria, Morrison and Milliken (2000), Kotter (1996) the failure of change management is mainly related to the lack of communication, information sharing, knowledge and trust. Management's attitude towards silence and communication opportunities are associated with and predict employees' silence behavior. These three dimensions are also associated with organizational commitment and job satisfaction (Vakola&Bouradas, 2005). Competencies have proven to be a powerful tool that has allowed human resource managers and change agents to communicate the goals of change and management's expectations of new ways of working, which has allowed employees to better understand the desirable actions and behaviors to achieve the stated goals (Vakola et al., 2007). An organization's antecedents to change (i.e., context) have the potential to negatively influence the success of change. To counteract these effects, change agents should strive to clearly communicate the details of the change (i.e., the process) to employees (Jack Walker et al., 2007).

- Imply :

As part of a planned change, it is important to involve all stakeholders in the change process, to this end, organizations must consider strategic, emotional, and sensemaking (Bartunek et al., 2011). Organizational change is similar to the adoption of an innovation. The determinants of beneficiaries' adherence to change are cognitive, emotional

and intentional (Armenakis et al., 2007). Successful change management is related to individual characteristics, the existence of a relationship between personality traits and employees' attitudes toward change, emotional intelligence and "bigfive" personality dimensions can facilitate organizational change (Vakola et al., 2004). Taking ownership of change through emotional. Gains were related to interpretations of the change initiative and pleasant feelings and that there was considerable emotional contagion within work units. Such effects are particularly likely in employee empowerment initiatives, as experiences are linked to the interpretations and moods of change recipients (Bartunek et al., 2006). The role of organizational justice, both procedural and interactional in the affective commitment of change recipients (Bernerth et al., 2007). Judson, (1991); Kanter et al, (1992); Kotter, (2005) emphasize the importance of providing the necessary means for employees to act in a way that is consistent with the vision, through the development of new ideas and ways of working. Hiatt (2006) that support can take the form of employee autonomy, managers must perform a role of proximity, the opportunity for employees to express their views on the change. Kotter (2012) build autonomous teams. Judson (1991) involve employees in the change process. Beer et al. (1980) encourage employees to propose their solutions to problems based on their daily experience. Cooperrider and Srivasta in (1987) employees develop specific change plans facilitates their ownership of the change. Encourage initiative and reward effort. Increase willingness to accept change through participation and involvement. The re-imagined organizational change leadership advocates for collective and collaborative work, provides greater ethical safeguards, views the views and opinions of all members of the organization as informative and disagreement as creative, draws on multiple academic disciplines and their interrelationships, views leadership and management as interdependent, engaging with all members of the organization, opens up opportunities for action research so that participants in change can be part of the research and change processes (Burnes et al., 2016). Causes of resistance to change: fear and inertia. stress caused by leadership issues (Alas, 2015). Organizations will need to develop structures and cultures that facilitate rapid and effective change if they are to compete and survive. Achieving this will require long-term planning and action, preceded by a frank examination of the current situation and future needs of each organization. It may seem contradictory to talk about rapid change in one sentence and long-term planning and action in the next. Distinguish between adaptive change and fundamental change. Fundamental change is about the radical transformation of an organization, while adaptive change is about particular aspects of its functioning and activities, such as departmental reorganizations, introduction of new products, etc. (Burnes, 1991).

- Developing learning:

The rapid pace of change and increased competition, is pushing organizations to move toward a new management paradigm based on organizational learning (Burnes et al., 2003). Effective change involves the development of new knowledge and skills. Hiatt (2006) argues that learning is

made possible by removing barriers to change. Schechter&Qadach, (2012) consider that barriers to learning are related to perceived uncertainty. The barrier to change is cultural, a change that challenges existing norms, attitudes (Burnes & James, 1995). Beer (1980) marked The key role of managers in developing learning. Learning is linked to understanding the vision and commitment to change. Edmondson, (1999, 2002); Edmondson, Bohmer, & Pisano, (2001) emphasize team learning as a mechanism for change adoption. Learning is possible through the introduction of new technologies and training (Vakola&Rezgui, 2000).

- Evaluating short-term progress:

Hiatt (2006) Kotter (1996, 2012) emphasize the importance of communicating the results of short-term progress, allows to demonstrate the achievement of the vision and to reinforce the adherence to change. At the organizational level, indicators of progress can focus on learning, information sharing, innovation, coordination, financial performance, product and service quality (Burnes & James, 1995). At the individual level, Jaffe et al. (1994) and d'Isabella (1990) consider that evaluation can focus on the degree of rejection, resistance, experimentation, and commitment to change (Armenakis&Bedeian, 1999). Gilmore, Shea, and Useem (1997) found that positive and negative outcomes occurred simultaneously. While typical improvements were achieved in criteria such as quality, service, productivity, and risk taking, affective outcomes such as organizational commitment, work climate, and employee morale deteriorated significantly (Armenakis&Bedeian, 1999).

- Monitor and reinforce the change process:

Models agree on the need to monitor and reinforce the conduct of change, continuing to invest resources. Kotter (1996, 2005) suggests that senior managers continue to focus on the vision of change and its urgency, while middle managers continue to focus on specific projects to drive change. Beer et al (1990) strengthen change management by making necessary adjustments to change plans. In this framework, Judson (1991) and Kanter (1991) suggest that reinforcement may include modifications to initial change plans in the event of new obstacles or an opportunity.

- Anchoring change:

Models agree to embed change into practices. According to Kotter (2005) middle managers need to be consistent with the vision of change, make explicit and explain to employees that performance is the result of the change effort, which will enhance the credibility and legitimacy of the change. Beer (1980), Judson (1991), and Kanter et al. (1992) quantify the results of the change in order to make visible and verify the degree of achievement of the objectives. Ornatzky and Klein (1989) found that innovations are likely to be adopted and institutionalized (Armenakis et al., 1999).

D. Conclusion

As a consolidation guide, and at the levels of our scientific contribution, our objective was to present a review of the literature on the concept of digital transformation, starting with its history and ending with its implications and constraints. Then, we tried to treat the concept of organizational change with a comparative analysis of

models from the literature. These models have been studied in depth in order to determine their capacity to lead organizational change in a digital transformation context. The research hypotheses that we have mobilized have given rise to the following results:

H1: Digital transformation gives rise to organizational change (validated).

H2: Organizational change models enable to drive the industry (being validated).

Regarding the limitations of the research, the comparative study of organizational change models revealed the existence of a single organizational change model for driving digital transformation, but which is not yet standardized. For this reason, we have proposed a set of key success factors that can be used to complement these organizational change models for successfully driving TD and which are:

(1) diagnosis of the internal and external environment, (2) assessing readiness for change, (3) creating an entity for change leadership, (4) creating a vision and strategy for change, (5) communicating the vision, (6) involving, (7) developing learning, (8) evaluating and correcting, and (9) institutionalizing change.

Finally, the main research perspective lies in a future scientific contribution to test these key success factors via an empirical study to validate the H2 hypothesis and bring valid knowledge into the literature.

REFERENCES

- [1] Armenakis, A. A., & Bedeian, A. G. (1999). Organizational Change: A Review of Theory and Research in the 1990s. *Journal of Management*, 25(3), 293-315. <https://doi.org/10.1177/014920639902500303>
- [2] Armenakis, A. A., & Harris, S. G. (2009). Reflections: Our Journey in Organizational Change Research and Practice. *Journal of Change Management*, 9(2), 127-142. <https://doi.org/10.1080/14697010902879079>
- [3] Autissier, D., Johnson, K., & Emily, M.-W. (2018). Du Changement à la Transformation. *Question(s) de management*, 21(2), 45. <https://doi.org/10.3917/qdm.182.0045>
- [4] Azzarradi, O., & Fikri, K. (2017). MODES DE CONTRÔLE ET DYNAMIQUE DU CHANGEMENT: CAS DU SECTEUR PUBLIC MAROCAIN. *Revue du contrôle, de la comptabilité et de l'audit*, 1(2), Article 2. <https://www.revuecca.com/index.php/home/article/view/27>
- [5] Beer, M., Eisenstat, R. A., & Spector, B. (1990). Why change programs don't produce change. *Harvard Business Review*, 68(6), 158-166. Scopus.
- [6] Benitez-Amado, J., & Walczuch, R. M. (2012). Information technology, the organizational capability of proactive corporate environmental strategy and firm performance: A resource-based analysis. *European Journal of Information Systems*, 21(6), 664-679. Scopus. <https://doi.org/10.1057/ejis.2012.14>
- [7] Benkaraache, T., & Ghanouane, K. (2020). Modèle théorique d'évaluation de l'apport de la transformation digitale à la chaîne de valeur des entreprises. *Revue Internationale des Sciences de Gestion*, 3(2), Article 2. <https://www.revue-isg.com/index.php/home/article/view/28>
- [8] Berman, S. J. (2012). Digital transformation: Opportunities to create new business models. *Strategy & Leadership*, 40(2), 16-24. <https://doi.org/10.1108/10878571211209314>
- [9] Bribich, S., Tatouti, R., & Jabhaoui, S. elislam. (2021). La contribution de la transformation digitale à la performance économique des entreprises: Cas des entreprises du Grand Agadir. *Revue Internationale du Chercheur*, 2(2), Article 2. <https://www.revuechercheur.com/index.php/home/article/view/203>
- [10] Burnes, B. (1996). No such thing as ... a "one best way" to manage organizational change. *Management Decision*, 34(10), 11-18. <https://doi.org/10.1108/00251749610150649>
- [11] Burnes, B. (2004). Emergent change and planned change – competitors or allies?: The case of XYZ construction. *International Journal of Operations & Production Management*, 24(9), 886-902. <https://doi.org/10.1108/01443570410552108>
- [12] Butt, J. (2020). A conceptual framework to support digital transformation in manufacturing using an integrated business process management approach. *Designs*, 4(3), 1-39. Scopus. <https://doi.org/10.3390/designs4030017>
- [13] Chaanoun, J., & Alaoui, M. (2022). Le changement organisationnel dans les établissements publics hospitaliers: Résultats d'une Recherche-Intervention au Centre Hospitalo-Universitaire Mohammed VI Oujda. *Revue Internationale des Sciences de Gestion*, 5(2), 301-324.
- [14] CHAANOUN, J., RAHMOUNI, A., & ALAOUI, M. (2022). Le changement organisationnel et la transformation digitale: Quelle relation?. *Revue internationale de comptabilité, finance, audit, gestion et économie*, 3 (5-1), 63-86.
- [15] Chen, Y., Wang, Y., Nevo, S., Jin, J., Wang, L., & Chow, W. S. (2014). IT capability and organizational performance: The roles of business process agility and environmental factors. *European Journal of Information Systems*, 23(3), 326-342. Scopus. <https://doi.org/10.1057/ejis.2013.4>
- [16] Cooperrider, D. L., & Srivastva, S. (1987). APPRECIATIVE INQUIRY IN ORGANIZATIONAL LIFE. *Research in Organizational Change and Development*, 1, 129-169.
- [17] Corbière, F. de, Godé, C., & Pallud, J. (2019). Contributions sur la transformation numérique. *Systemes d'information management*, 24(2), 3-5.
- [18] Cordelier, B., & Marie-Montagnac, H. (2008). Conduire le changement organisationnel? *Communication Organisation*, 33(1), 8-16.
- [19] Cortellazzo, L., Bruni, E., & Zampieri, R. (2019). The role of leadership in a digitalized world: A review. *Frontiers in Psychology*, 10(AUG). Scopus. <https://doi.org/10.3389/fpsyg.2019.01938>
- [20] Do, T. D., Pham, H. A., Thalassinos, E. I., & Le, H. A. (2022). The Impact of Digital Transformation on Performance: Evidence from Vietnamese Commercial Banks. *Journal of Risk and Financial Management*, 15(1). <https://doi.org/10.3390/jrfm15010021>
- [21] Feher, P., & Varga, K. (2017). Using Design Thinking to Identify Banking Digitization Opportunities – Snapshot of the Hungarian Banking System. *Digital Transformation – From Connecting Things to Transforming Our Lives*, 151-167. <https://doi.org/10.18690/978-961-286-043-1.12>
- [22] Gilbert, P., Raulet-Croset, N., Mourey, D., & Triomphe, C. (2013). For a contribution of activity theory to organizational change. *@GRH*, 7(2), 67-88.
- [23] Gong, C., & Ribiere, V. (2021). Developing a unified definition of digital transformation. *Technovation*, 102. Scopus. <https://doi.org/10.1016/j.technovation.2020.10221>
- [24] Guilhaon, A. (1998). Changement organisationnel est un apprentissage (Le). *Revue française de gestion*, n°120, 98-107.
- [25] Guinan, P. J., Parise, S., & Langowitz, N. (2019). Creating an innovative digital project team: Levers to enable digital transformation. *Business Horizons*, 62(6), 717-727. Scopus. <https://doi.org/10.1016/j.bushor.2019.07.005>
- [26] Haffke, I., Kalgovas, B., & Benlian, A. (2016). The role of the CIO and the CDO in an Organization's Digital Transformation. 2016 International Conference on Information Systems, ICIS 2016. Scopus.
- [27] Hess, T., Benlian, A., Matt, C., & Wiesböck, F. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive*, 15(2), 123-139. Scopus.
- [28] Hiatt, J. M. (2006). ADKAR: a model for change in business, government and our community.
- [29] Hinings, B., Gegenhuber, T., & Royston, G. (2018). Digital innovation and transformation: An institutional perspective.

- Information and Organization, 28(1), 52-61. <https://doi.org/10.1016/j.infoandorg.2018.02.004>
- [30] Horlacher, A., & Hess, T. (2016). What does a chief digital officer do? Managerial tasks and roles of a new C-level position in the context of digital transformation. 2016-March, 5126-5135. Scopus. <https://doi.org/10.1109/HICSS.2016.634>
- [31] Janati-Idrissi, F. (2020). La transformation digitale des PME au Maroc: Enjeux et perspectives. Repères et Perspectives Economiques, 4(2), Article 2. <https://doi.org/10.34874/IMIST.PRSM/RPE/21539>
- [32] Johnson, K. J. (2016). The dimensions and effects of excessive change. Journal of Organizational Change Management, 29(3), 445-459. Scopus. <https://doi.org/10.1108/JOCM-11-2014-0215>
- [33] Kohli, R., & Johnson, S. (2011). Digital transformation in latecomer industries: CIO and CEO leadership lessons from Encana Oil & Gas (USA) Inc. MIS Quarterly Executive, 10(4), 141-156. Scopus.
- [34] Koscheyev, V., Rappog, V., & Vinogradova, V. (2019). Digital transformation of construction organizations. IOP Conference Series: Materials Science and Engineering, 497, 012010. <https://doi.org/10.1088/1757-899x/497/1/012010>
- [35] Kositanurit, B., Ngwenyama, O., & Osei-Bryson, K.-M. (2006). An exploration of factors that impact individual performance in an ERP environment: An analysis using multiple analytical techniques. European Journal of Information Systems, 15(6), 556-568. Scopus. <https://doi.org/10.1057/palgrave.ejis.3000654>
- [36] Kotarba, M. (2018). Digital transformation of business models. Foundations of Management, 10(1), 123-142. Scopus. <https://doi.org/10.2478/fman-2018-0011>
- [37] Kotter, J. P. (1997). Leading change: A conversation with John P. Kotter. Strategy & Leadership, 25(1), 18-23. Scopus. <https://doi.org/10.1108/eb054576>
- [38] Kotter, J. P. (2006). Why Transformation Efforts Fail. Harvard Business Review, 11.
- [39] Kotter, J. P., & Schlesinger, L. A. (2008). Choosing Strategies for Change. Harvard Business Review, 86(7-8), 130-139+162. Scopus.
- [40] Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital Transformation: An Overview of the Current State of the Art of Research. SAGE Open, 11(3). Scopus. <https://doi.org/10.1177/21582440211047576>
- [41] Lotfi, B., Garrot, T., & BENCHEKROUN, B. (2010, mai 11). MODELISATION DES PERCEPTIONS DES ACTEURS POUR REUSSIR LA CONDUITE DU CHANGEMENT: CAS DE L'HOPITAL.
- [42] Matt, C., Hess, T., & Benlian, A. (2015). Digital Transformation Strategies. Business & Information Systems Engineering, 57(5), 339-343. <https://doi.org/10.1007/s12599-015-0401-5>
- [43] O'Reilly III, C. A., & Tushman, M. L. (2004). The Ambidextrous Organization. Harvard Business Review, 82(4), 74-81+140. Scopus.
- [44] Romero, D., Flores, M., Herrera, M., & Resendez, H. (2019). Five Management Pillars for Digital Transformation Integrating the Lean Thinking Philosophy. 2019 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC), 1-8. <https://doi.org/10.1109/ICE.2019.8792650>
- [45] Rondeau, A. (2008). L'évolution de la pensée en gestion du changement: Leçons pour la mise en œuvre de changements complexes. Télescope, 12.
- [46] Schwarzmüller, T., Brosi, P., Duman, D., & Welpel, I. M. (2018). How does the digital transformation affect organizations? Key themes of change in work design and leadership. Management Revue, 29(2), 114-138. Scopus. <https://doi.org/10.5771/0935-9915-2018-2-114>
- [47] Slimani, H., & Benjelloun, A. (2021). La transformation Digitale au service de la communication interne: International Journal of Accounting, Finance, Auditing, Management and Economics, 2(1), 301-312. <https://doi.org/10.5281/zenodo.4474493>
- [48] Soparnot, R. (2013). Les effets des stratégies de changement organisationnel sur la résistance des individus. Recherches en Sciences de Gestion, 97(4), 23-43.
- [49] Stouten, J., Rousseau, D. M., & De Cremer, D. (2018). Successful organizational change: Integrating the management practice and scholarly literatures. Academy of Management Annals, 12(2), 752-788. Scopus. <https://doi.org/10.5465/annals.2016.0095>
- [50] Vial, G. (2019). Understanding digital transformation: A review and a research agenda. The Journal of Strategic Information Systems, 28(2), 118-144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- [51] Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. Long Range Planning, 52(3), 326-349. <https://doi.org/10.1016/j.lrp.2018.12.001>
- [52] Zimmermann, A., Schmidt, R., Sandkuhl, K., Jugel, D., Bogner, J., & Möhring, M. (2019). Decision-oriented composition architecture for digital transformation. Smart Innovation, Systems and Technologies, 97, 109-119. Scopus. https://doi.org/10.1007/978-3-319-92028-3_11
- [53] R. Storn, Differential evolution a simple and efficient heuristic for global optimization over continuous Spaces, Journal of Global Optimization 11, p.341-359, 1997.
- [54] M. Clerc, J. Kennedy, The Particle Swarm Optimization Stability, and Convergence in a Multidimensional ComplexSpace, in : IEEE Transactions on Evolutionary Computation, vol. 6, p.58-73, 2002.