

Leadership and Digital Transformation

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Abstract

This work highlights the concepts and theories related to leadership from the perspective of digital transformation. Digital transformation, which is also known as the Fourth Industrial Revolution, requires private and public organizations to adapt management models to enable their evolution and face challenges to remain competitive and survive in the market. Therefore, leadership is necessary for such a revolution. Traditional theorists were consulted about the subject of leadership and modern sources of digitization, resulting in avant-garde and contemporary content. Innovation is a vital attribute for companies that allows them to remain viable, healthy, and sustainable, and leadership is an essential pillar that supports this.

Keywords: Fourth industrial revolution, leadership, digital transformation

1. Introduction

There is a broad consensus about the relevance of innovation to increasing the productivity and competitiveness of organizations, at the microeconomic and macroeconomic levels: innovation is a determining factor that increases the growth potential of the industry (Pacheco & Almeida, 2013). Therefore, focusing on the development of organizations and the transformation of the market in focus has resulted in the renewal of the industrial bases and the creation of an innovative industrial fabric. This is because the current productive structure depends on innovation, which is a determinant of organizational success. In this scenario, the transformation has become constant, and changes in the current work environment, especially those regarding to business models, business strategies, and organizational structures have become even more apparent.

The term “transformation” refers to something that has been accomplished or that comprised a beginning, middle, and end. However, it appears that digital transformation originated origin at the beginning of the Fourth Industrial Revolution, which is also known as Industry 4.0, and has extended to the present day (Oberer & Erkollar, 2018). Therefore, digital transformation is a continuous process of transformation. The Fourth Industrial Revolution, which is characterized by the intensive use of technology in production processes, impresses on companies the need to evolve and adapt their leadership models, as a condition to remain competitive and achieve long-term survival in the market.

The Fourth Industrial Revolution is becoming enhanced by the transformations attributable to digital technology. In this new social and economic context, greater connections and interactions between people have affected the business world. There is a greater interrelation between people, cultures, and commerce (Carvalho, 2019). Thus, companies are challenged to evolve from a digital perspective and face an extremely competitive market.

This process is called digital transformation and refers to the disruptive changes that occur in society and are driven by the use of technology. In this scenario, managers aim to establish conditions to transform organizational management, to produce companies with highly innovative performances and that adapt to market changes quickly and efficiently (Silva, 2018).

Digital transformation has brought about changes in the concept of work, professional skills, and labor relations to meet market demands. Redefining the role of managers and employees is now essential. Thus, as companies implement the concept of digital transformation in their plans and strategies, new products, processes, services, and business models emerge to reshape existing concepts and meet consumer needs. This requires the acquisition of competencies by organizational leaders (Silva, 2018).

This article addresses the process of continuous digital transformation in companies, which in turn brings challenges related to some demands, one of them being the ability of leaders to exercise adequate leadership proportional to the principal changes brought about by this revolution. Furthermore, from a brief review of the concept and leadership styles, the text brings the discussion to the context of digital transformation, because observing world trends is a conditioning factor for the exercise of leadership, as well as highlighting the theoretical-scientific theories on the subject.

Considering the challenges that irreversible digital evolution and trends in human behavior present, it is proposed to reflect on the role of leadership within the scenario of digital transformation. An overview of the work environment is presented, especially with regard to the speed of innovations, the need for the physical organization of workspaces, and the reformulation of strategies and business models.

In addition, the importance of replacing hierarchical structures with horizontal team networks is addressed, as well as the replacement of annual performance evaluations with continuous feedback processes and the implementation of inclusive, collaborative, and flexible work environments, in order to meet the expectations of the workforce.

2. Leadership as a Necessary Competency in the Processes of Change

Taking an expanded and uncut vision for the context of digital transformation, Chiavenato (2003, p. 122) argues that leadership is necessary for all types of human organizations, whether in companies or in their individual internal departments. It is essential in all functions of Management: the manager needs to understand human nature and know how to lead people, that is, be a leader. From the classical management literature, Chiavenato (2003, p. 122) retrieves the definitions of leadership styles according to the vision of White and Lippit (see Table 1) and concludes that in practice leaders exercise these three styles in a reconciled and contingent manner.

Table 1. The three leadership styles

Autocratic	Democratic	Liberal (Laissez-Faire)
<ul style="list-style-type: none"> The leader sets the guidelines, without any participation from the group The leader determines the arrangements for the execution of the tasks, each in turn, as they become necessary and unpredictable for the group The leader determines the task that each one must perform and who his/her co-worker will be. The leader is domineering and “personal” in the praise and criticism of each member's work 	<ul style="list-style-type: none"> The guidelines are debated and decided by the group, stimulated and assisted by the leader The group outlines the arrangements for achieving the target and asks for advice from the leader, who suggests alternatives the group can choose from. Tasks gain new perspectives with the debates The division of tasks is at the discretion of the group and each member is free to choose their co-workers The leader seeks to be a normal member of the group, in spirit. The leader is objective and confines himself to facts when it comes to criticism and praise 	<ul style="list-style-type: none"> There is total freedom for group or individual decisions, and minimal participation of the leader The leader's participation is limited, presenting only varied materials to the group, clarifying that he could provide information as long as they ask for it The division of tasks and choices of colleagues is entirely up to the group. Absolute lack of participation of the leader The leader does not evaluate the group or control events. Only comments on activities when asked

Source: Félix (2013).

Leaders who have a clear purpose and a genuine interest in their teams tend to achieve good results, as they are able to provide employees with work environments fostering belonging and trust. For Kotter (1997, p. 7), the vision plays an important role in producing a useful change by helping to direct, align and inspire actions by a large number of

people.

Without the right vision, a transformation effort can easily be dissolved into a list of confusing, incompatible, and time-consuming projects that lead in the wrong direction or simply into a dead end. Given this, it appears that leadership is a fundamental competence in the context of transformation processes.

3. The Generations, the Work Scenario, and the Role of the Leader

The success of the adaptation process and the use of new technologies depends on solid leadership resources, whether they are industrial technologies, management, or communication technologies. Organizations need to define this as a strategy if they are to successfully digitalize and have any new proposed technology sponsored by senior management so that people understand their importance and commit to the necessary new organizational processes. This may include replacing technology. The employees of a company may still have an outdated understanding of their role, but Westerman et al. (2016) warn:

“The changes brought about by digital transformation are real. But even when a company's executives already see the digital threat/opportunity, they may still need to convince their employees”.

The organizational culture of each company or institution is unique and organizational culture cannot be directly copied from other organizations. Rather, changes need to be implemented according to shared values and strategies. Supporting this point of view, Hall (1978) had already stated that culture, in its broad sense, has three characteristics: it is not innate but learned, has distinct interrelated facets, is shared and in fact determines the limits of groups. By introducing this broad concept of culture to organizations, the unique character of the company as mentioned above, is verified. Robbins (1990) points out that culture is conceptualized from the values, beliefs, and attitudes of society, including personality traits and psychological differences. Therefore, organizational culture is defined as the shared values and beliefs that provide meaning to the institution (Davis, 1984). This suggests that organizational culture refers to the customs, values, habits, traditions, and actions shared by the members of the institution, which characterize a given organization (Leavitt, 1986).

This interferes with the organizational culture of institutions, as there is an ongoing phenomenon resulting from the interactions among different generations within organizations, a fact that has required leaders to be able to mediate conflicts, overcome obstacles and achieve results. Each generation provides complementary qualities to an organization. The theory of generations X, Y, and Z are used to understand the characteristics of the different generations.

Table 2. Characteristics of Baby Boomers and Generations X, Y and Z

Baby Boomers	X	Y	Z / Millenials
-Born between the years 1940 and 1960, that is, at the end or just after the Second World War	-Born between 1960 and 1980	-Born between 1980 and 2000	-Born in the present day
-Loyalty and commitment to the company	-Individuals marked by Revolutionary Movements	-Accompanied the technological evolution	-Marked by technological developments and the emergence of the internet
-Appreciation of professional promotion	-Value financial stability and commitment to work	-They were born in a prosperous period. -Work-life balance seeking satisfaction at work	

Source: De Freitas, Pita and Alexandre, 2018.

The process of engaging people in digital transformation requires the use of digital tools. These tools include internal social networks, through which people, regardless of the hierarchical positions they occupy, can obtain information, give their opinion and contribute. Blogs allow you to share ideas and promote interactions between people, while videos facilitate the connection between leaders and followers.

World-class organizations experience good results by using digital tools to promote employee engagement and consequently produce more productive interactions with customers. Westerman et al (2016) - in research on how

companies work with digital technologies – take the example of Pernod Ricard (a French company that manufactures and distributes several beverage brands). Given the fact that customers were talking about the company's products on social media and expected more direct and engaging conversations with brands, the company decided to implement a social network platform integrating the entire organization. The strategy aimed to connect everyone as a prerequisite for sharing and creating scale in successful initiatives across brands and markets. In the case of Pernod, the survey also reveals that the tool was not the most important thing but the commitment of employees to act as a global team, and to achieve this, governance, communication, and training devices were used.

The Industry sector of the economy has undergone a profound transformation and has perceived the need to offer new business models based on value-creation processes more appropriate to the Fourth Industrial Revolution. It is generally accepted that Industry 4.0 is transparent and provides clear information and good networking platforms to enhance the business sector. These should also have physical and virtual resources that allow greater collaboration between machines, people, and devices for rapid market adaptation (Oberer & Erkollar, 2018).

The current scenario demonstrates that the market has changed according to the innovations that have emerged in the globalized environment. These changes have occurred internally and externally, with the replacement of organizational and vertical hierarchical structures by networking structures, providing more collaborative, inclusive, and flexible environments. The network structure consists of “*a set of relatively stable relationships, of a non-hierarchical and interdependent nature, that link a variety of actors who share common interests with respect to a policy and who exchange resources to satisfy these shared interests, recognizing that cooperation is the best way to achieve common goals*” (Borzel, 1998). Agranoff and McGuire (2001) point out that the network structure is defined as “*multi-organizational arrangements*” that aim to find solutions to solve organizational problems and are formed by teams from different sectors. Saravia (2002) points out that the factors that support the functioning of the network structure are connectivity, negotiation, coordination, trust, and relationship building.

The structures within networks act as an alternative proposal to vertical structures, presenting conditions for innovation and flexibility and imposing several organizational changes. In addition, the analysis of network training from its structural aspect presents characteristics consistent with a system of collaboration between institutions and people who have common goals. In the work environment, this interrelationship between the members of a collaborative system presents a high degree of autonomy, dynamism, flexibility, and decentralization for decision-making.

Therefore, it is possible to infer that the formation of networks meets the demands of a complex and chaotic environment through the sharing of information (Morgan, 1997). This is because the horizontal structure promotes the alignment of institutions from networks of nodes – simple or complex - and intersectoral or multisectoral programs already existing in organizations. It is in this context that leaders must overlap and show their skills in the organizational context, seeking to make good decisions and achieve the desired results.

In this scenario, the implementation of differentiated strategies that adapt to the new complex context is necessary, one that is globalized and interrelated. According to Schumpeter (1984), this impulse keeps the structure of work in motion, with new consumer goods, productive processes, and organizational structures. These new processes, consumer goods, and structures adapted to the current work environment are what we call “innovation”. Given this, it is obvious that institutions need to reinvent themselves in the face of continuous market changes. Therefore, the reformulation of business strategies and business models is necessary.

The redesign and implementation of business strategies lie at the heart of the uncertainty surrounding the future due to the complexity of today's market. To become competitive, business strategies must be sensitive to changes in the environment. Schumpeter (1984) points out that the innovative process requires more mature strategies, which are more prone to risk and help in decision-making, even if one does not have a constant, solid vision about the future. Within the scope of business strategy, it can be said that the creation of strategic plans can produce more effective processes in order to help companies present more effective results in their respective markets (Mintzberg, 1973).

Vibrant organizations and institutions create their organizational strategies from formal components – such as bureaucratic procedures and norms and rules - but they also need to analyze their relationship with the external environment and define strategies for multidimensional and complex processes that are part of the organizational structure. In addition, these pre-established strategies must be defined in accordance with everyday decisions and with the details that drive organizational operations. Therefore, companies transform production processes, create products and services, adapt to market needs, and implement new business models aimed at organizational success and alignment with innovation. Therefore, it can be said that business strategy and innovation are inseparable organizational components (Pacheco & Almeida, 2013).

Since these components are closely related to each other in the context of innovation management, Matt, Hess, and Benlian (2015) emphasize that digital transformation strategies take a different perspective, as they focus on transforming products and processes as new technologies develop. In addition, the scope of digital transformation strategies is broadly designed, with the use of digital technologies aimed at end-user satisfaction. The authors (2015) also point out that digital transformation strategies have a different perspective because they go beyond process optimization and automation since the formulation of these strategies includes changes in business models as a whole. Therefore, this strategy acts as a plan that assists in the management of organizations in the face of digital transformations stemming from technological integration.

Taking this further, Pacheco and Almeida (2013) address the idea that innovation is closely related to the company's competitive strategies since the improvement of products, processes and services, production lines and business models are methods that can increase the competitiveness of organizations. In addition, investment in innovation means that it can be more successful and can increase the competitiveness of the company, as the force of innovation helps acquire new markets.

That is why it is important to implement policies to support and encourage innovation in organizations, including the intensive use of technology. In addition, to ensure the positive results of the formulation of the digital transformation strategy, it is necessary to align four dimensions: technology use, value creation, structure change, and financial aspects. These four dimensions need to be interconnected and integrated into a digital transformation framework, as shown in Figure 1 of the following framework.

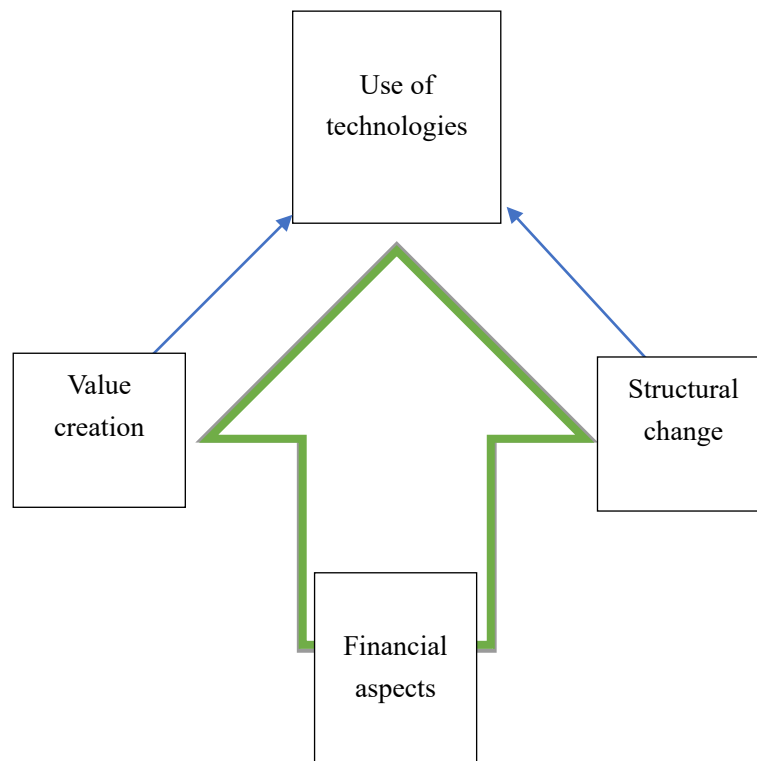


Figure 1. Dimensions of the digital transformation structure

Source: Matt *et al.*, 2015.

In this scenario of digital transformation and complex systems, companies need to implement innovation strategies constantly to shape their structures and management models. Therefore, it is of fundamental importance to define and implement clear and appropriate strategies for the current context. Otherwise, companies may encounter difficulties in operating in the market and face resistance from the different internal sectors of the company. Thus, for digital transformation strategies to be successfully implemented, the active engagement of stakeholders who act in the

transformation process is necessary (Matt et al., 2015).

4. The Leader in the Era of Digitization

The profile of a leader in this volatile and unstable environment suggests someone that needs to present new skills to achieve success. Therefore, pre-established behaviors are no longer sustained in the current market. Since Industry 4.0 is a current and dynamic process, it is extremely challenging to identify what skills should be required of a leader in order to achieve good results.

The traditional leadership model is based on a stable, linear, and predictable change environment. However, according to the scenario of Industry 4.0, these characteristics have changed, and the current work context is increasingly complex and chaotic (Torres, 2005). According to Magaldi and Neto (2018), in this period of the Fourth Industrial Revolution, the competencies that have to be presented by leaders must be based on the following concepts.

- (a) They must propose solutions for disruptive technologies.
- (b) They should identify solutions from innovative ideas,
- (c) They should present flexible thoughts and rapidly absorb new market demands,
- (d) They need to develop long-term projects,
- (e) They should present “bold” thinking, that is, foster exponential thoughts that generate radical changes in the market,
- (f) They need to develop a transformative purpose in order to reduce the loss of focus and energy and inspire all employees to attain the pre-established objectives and
- (g) They should generate value for the product or service offered.

Magaldi and Neto (2018) also emphasize that the leaders of the Fourth Industrial Revolution must integrate emotional balance with the search for self-knowledge. This integration can help the leader achieve their organizational goals. Industry 4.0 is composed of design transformations, operations, and systems services, and presents a disruptive paradigm. In this context, new challenges appear for leaders who need to make manufacturing processes more flexible and organize processes from smart grids, decreasing production costs and creating competitive market advantages (Oberer & Erkollar, 2018).

We are aware that Industry 4.0 refers to information and communication technologies (ICTs) and depends on innovative technological developments focused on the integration of systems in order to control and monitor processes and systems with intelligent tools. Fourth Industrial Revolution leaders must integrate all organizational processes, from product development to shop floor activities (Bauernhansl et al., 2014). Maneghetti (1995) presents a discussion on the impact of technologies and the impact of leaders on the management of organizations. The author points out that the leader must be able to propose solutions to organizational problems and stimulate the development of the company.

Maneghetti (1995) further adds that the leader must act as the driving force that promotes the development and evolution of the organization, regardless of the impact generated by technologies. In this context, Sawy (2016) portrays the role of the leader in the digitalization era as the creation of business strategies, business models, and digital skills, among other tasks that correspond to the IT (information technology) implementation function.

Therefore, the organizational strategies defined by leaders must include all the issues resulting from digital transformation, in order to create value for the business. Furthermore, Sawy (2016) points out that basic digital skills are fundamental for engagement in the innovative market, making viable the process of co-creation from digital product and service platforms. In addition, the author points out that the co-creation group must be formed by partners who are flexible and adaptable to the new market model, promoting collaboration and mobility among employees.

In keeping with this scenario, Schwarzmüller et al (2018) point out that in view of the current business environment, leaders have constant access to a large quantity of information through existing communication channels between business partners, employees, customers, and other *stakeholders*. Therefore, it can be said that the leader's power of influence can be even greater in the workplace. In addition, the leader can define strategies and make decisions from the analysis of information and data with collective intelligence and tools such as *Big Data Analytics* and *Business Intelligence* (BI). It is essential that current leaders understand the context of digital transformation and are able to implement the concepts of innovation in their projects in order to achieve the desired results.

It is obvious that in the face of digital transformations, the work environment has changed. Schwarzmüller et al. (2018) point out some of the key changes that have occurred. The main changes resulting from digital transformation occur in these areas: (a) organizational hierarchy; (b) use of information technology (ICT); (c) performance management and process evaluation and (d) work environments. These transformations directly affect the leader's performance within the work environment, as shown in Table 3.

Table 3. Changes in the work scenario and the performance of leaders due to digital transformation

	Work scenario	Leader
Work environment	Changes in the working relationship.	Increased demand for tasks.
	Increased demand for tasks.	A balance between work and participatory leadership.
Use of digital technologies	Use of information technology and communication.	Management is carried out with the use of digital technologies.
	Changes in communication and collaboration methods.	Leadership of multicultural teams.
Performance and skills	Changes in performance appraisal.	Guidance to facilitate greater autonomy of employees.
	Increased skills and competency requirements.	Continuous feedback process.
Innovation	A scenario of constant innovation.	Innovation Management.

Source: Schwarzmüller et al. (2018)

In the context of changes in the work environment, there have been changes in the way employees work in the institutions since they are connected and can carry out their activities anywhere, whether in the company's office or in their own residence. In terms of the use of Information and Communication Technology (ICT), we already see in the workplace, the adoption of digital technologies for the automation of professional activities, support of complex tasks, and for the feasibility of collaboration and communication between members of the same team (Schwarzüller et al., 2018). Thus, it is worth emphasizing that, in order to use ICTs efficiently, organizational managers need to have the necessary skills and abilities.

ICTs are part of a continuously innovative work environment that makes use of collective intelligence, collaborative work methods, and the development of a visionary spirit. Therefore, the structures of organizational hierarchies are more horizontal as a result of the greater autonomy acquired by employees because of greater decision-making power. These changes influence the leader's way of acting. This individual is now in a more collaborative and participatory work environment.

5. Continuous Digital Transformation Process in Enterprises

Since the First Industrial Revolution, the work scenario has changed, with the automation of manufacturing processes, the use of digital machines, and the direct influence of technology in the production process. Ustundag and Cevikcan (2017) argue that companies are seeking to deal with everyday challenges with quick responses to market demands to deal with this new scenario. Furthermore, this context can be exemplified by the use of services and automated machines for the transformation process, generating complex connected and coordinated systems. Concomitant with this the integration of Information Technologies and new concepts arising from Industry 4.0, such as digital transformation, has also developed.

Hinings et al. (2018) state that digital transformation is conceptualized as the effects resulting from the emergence of digital innovations in the market that bring new actors, values, beliefs, practices, and structures. In addition, these digital transformations change, replace or threaten ecosystems, organizations, and industries. According to the precepts of institutional theory, it can be concluded that institutions are not systems limited to the rational aspect, since there is an adaptation according to the market demands demanded by competitors, consumers, and suppliers. That is a result of organizations and their stakeholders being considered social systems.

New business models have emerged with more autonomous systems and more complex value chains. Thus, Industry 4.0 presents concepts related to automation, digitization, and integration of networks that aim at value creation, focusing on the use of intelligent and interrelated systems from both human-machine and machine-machine interaction. Therefore, according to Ustundag and Cevikcan (2017), within the scope of Industry 4.0, the managers and leaders of an organization need to act on the evaluation and analysis of data from intelligent and distributed systems. In this sense, the digital transformation resulting from Industry 4.0 is based on the following fundamentals: (a) data analysis and artificial intelligence; (b) cloud systems; (c) network communication; (d) adaptive robotics; (e) simulation and embedded systems; (f) virtualization of technologies and (g) additive manufacturing.

These fundamentals lead to real-time information management, agility and decentralization, and integrated process development, with the implementation of systematic frameworks, value-added networks, and supply chain and service systems. Taking into account what has been stated above, one can present a multi-layered and multifunctional strategic roadmap compatible with Industry 4.0.

Therefore, the implementation of these innovation management tools can provide a significant competitive advantage for the organization in the face of the current market scenario based on digital transformation. Companies that present innovative businesses can transform the market landscape and achieve significant growth. The main objective of this digital transformation is to make resources and production process more efficient, increasing organizational competitive power and modifying the business scenario, ensuring that all processes are more connected and collaborative (Ustundag and Cevikcan, 2017). These transformations require companies to define new strategic decisions, redefine their organizational structure, and align with innovation-driven demands.

In this discussion, Matt et al. (2015) express the idea that, in recent years, the business market has taken action by exploring and implementing digital technologies in the organizational context in order to analyze their advantages and benefit. Several changes in the work scenario were understood to be necessary, such as the transformations of operational processes, organizational structures, and the concept of management.

Managers – like leaders – of companies realized the importance of acquiring skills and establishing practices to manage organizational systems that were increasingly complex in the face of digital transformation. This scenario required company employees to seek to formulate strategies to coordinate and integrate digital technologies in the internal environment of the organization, in order to affect business processes.

Regarding digital transformation, Deloitte (2019) states that the social, economic, and political changes resulting from cognitive and automation technologies have challenged organizational strategies. A survey by *Global Human Capital Trends* by Deloitte (2019) shows that 86% of managers who participated in the survey believe that it is necessary to reinvent their learning skills. In addition, 84% of respondents stated that they need to rethink their work methods to improve productivity. Lastly, 80% of participants indicated that they need to develop leaders according to different criteria.

As much as institutions focus on digital transformation, it is necessary to reinvent themselves at all times and rethink the management model to meet market needs. Research by *Global Human Capital Trends* has shown that there is intense concern on the part of managers to reinvent their management methods to maintain the competitiveness of the organization in the face of its competitors. The author (2019) states that these strategies can be created aiming at improving employee experiences, motivating people, generating social impacts, and forming networks among employees, among others. These strategies must accompany the market transformations resulting from innovation.

Kane (2015) states that digital companies are focused on integrating digital technologies in order to transform the method of managing their business. This transformation is determined by digital strategies and the promotion of innovation. Thus, companies take risks in order to gain a greater competitive advantage in the market. Therefore, it is essential that organizations define and implement strategies, and these are part of their scope and organizational objectives. This will mean that it is possible to benefit from the implementation of strategies.

This is a direct result of digital transformation strategies – such as acquiring digital maturity, engaging talent, and developing new business processes and models - all designed to transform the business. In this scenario, companies have been looking for employees who have digital skills, and who have wanted to work in companies committed to digital development (Kane, 2015). Thus, organizations and their leaders need to present and implement clear and coherent strategies in order to increase the competitiveness of the institution.

6. Conclusion

Technological innovation is a concept that has infused the business environment since companies need to reinvent themselves according to market demands to maintain competitiveness in the face of competition. The implementation of the concepts of innovation in institutions is vital for their survival and development in a market that is increasingly unstable and complex. By investing in innovation, companies can implement the transformations necessary to achieve improved results and keep abreast of the changes that are occurring in the current global economic scenario.

Schumpeter (1997, p.47) states that innovation is a fundamental phenomenon for the capitalist market that promotes development and economic evolution. The author further points out that economics is “*dragged along by the changes of the world around it, and that the causes, and therefore the explanation of development, must be sought outside the group of facts that are described by economic theory.*” Given these economic changes cited by

Schumpeter, in recent years there have been transformations in the business environment due to technological development, such as Industry 4.0.

The Fourth Industrial Revolution refers to the rapid transformations of production, implementation and operations that are now part of the market. In addition, Industry 4.0 consists of investing in the creation of capabilities that design the interaction between human-machine, analytics and intelligence, and data and connectivity. Thus, this Fourth Industrial evolution seeks to take advantage of the technologies that generate digital transformation and present a new leadership model from a two-dimensional matrix (x-axis: investment in innovation and y-axis: concern with employees).

Digital transformation has spread into fields and organizations and developed coexisting chains in a complex interaction environment. This has modified the conjuncture of institutional arrangements - previously legitimized - and established a new organizational form, with practices, structures, and values enabled in the digital sphere, constituting a more appropriate nucleus for the current institutional conjuncture (Mair & Reischauer, 2017). Thus, it can be said that digital transformation has produced new forms of organizational management, especially with regard to leadership models, namely the performance and the role of the leader in the organizational context.

This structural change resulting from digital transformation has made the hierarchy of organizational management more horizontal, where there are different sectors - with multidisciplinary teams - and few positions of leadership, command, and control. Thus, the employees of an organization have had greater autonomy and decision-making power, with self-organized management systems. Given this positioning, the leader needs to create a participatory and collaborative environment, where he acts simultaneously as coordinator and driver of the projects. Thus, the management model has been modified due to the implementation of new technologies and the performance of ICTs in organizations.

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