

# **Success Model of the Company's Digital Transformation Project in Uncertain Times**

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*This study proposes a model of success of the digital transformation of the company. The results showed that at the exploration stage, human capital and relational capital make it possible to identify the challenges of the digitalization of the company. At the technological evaluation stage, the human and structural capitals are two effective levers for successful digitalization. Then, at the stage of transition, the human, structural and relational capital has an undeniable contribution. Finally, at the digitization stage, it is the integration of the four capitals that generates the success of digitalization. However, it is transformational leadership that constitutes the guitar architecture of the company's success.*

*Keywords: digitalization, digital transformation, success, transformational leadership, intellectual capital*

## **INTRODUCTION**

It is recognized by many business leaders whom the pace of change is increasing exponentially. These changes require companies to adopt further. At the same time, a high dose of volatility emerges creating a remarkably uncertain and unpredictable ecosystem. Also, we are witnessing the indescribable rise to new digitalization opportunities: let us mention, among others, the development of social networks, the emergence of mobile services, etc. As a result, companies in almost every sector are deploying a variety of initiatives to explore and exploit the benefits associated with it. This is digital transformation (TD). Although it varies from one company to another, this adaptation of business models to new digital realities that a company carries out for socio-economic purposes is essential to its survival. It transforms the company's functions and effectively manages the activities that print them.

Several authors (Bowersox & Drayer, 2005; Khanboubi & Boulmakoul, 2019; Schwertner, 2017; Svarc, Laznjak, & Dabic, 2021; Verina & Titko, 2019; Wang, Wang, & Zou, 2019) usually measure TD by the nature of the stages to the process and the scope of the operations involved. While a few (Berman, 2012; Ganguly, 2015) believe that TD is measured in terms of opportunities, issues, but also the challenges that arise. However, all proponents agree that TD involves improving business and marketing models. It adds value to products and organizational structure. As a result, companies are establishing management practices to govern these complex changes. This involves responsibility, a change of mind, a change of posture, but above all cutting-edge technology. Proponents of TD point to companies in underdeveloped countries where access to new technologies is very heterogeneous. Therefore, some authors believe that the measurement of TD, exclusively by the level of technology, would be biased, in part, because of this heterogeneity. However, most authors believe that TD remains an important and essential lever for the company's strategic performance and positioning in a competitive environment. It is a privileged vector to

enable the company to achieve its mission. As such, TD is a way to make products safer, more accessible, and more affordable.

Despite its importance, the success on a TD project is not always explicitly conceptualized and represented due to the plurality of criteria and factors. This chapter will provide a comprehensive and complex overview of TD's success and highlight the relevant factors involved. The theories and practices behind TD suggest that this resource is valuable for the company, but still poorly modeled. As a result, a grey area remains as to the path to its success. Thus, in this chapter, we ignore the obstacles to TD's success. We plan to contribute to its improvement. In this vision, our remarks will be inscribed on the theory of the network actor and the theory of resources. We will try to answer the following question: given that any company carries out its change projects by leveraging its resources, what are the most effective factors for the success of the company's digital transformation depending on the sector? This chapter aims to demonstrate, in a structured and hierarchical way, the factors, stemming from the intellectual capital of the company, which have a strong explanatory power for the success of TD. The structure to the chapter is composed of (i) theoretical framework (ii) methodological path and (iii) results.

## **THEORETICAL FRAMEWORK**

Digital transformation was born in a specific context and has a history. The lack of consensus on this concept remains there. This sequence aims to shed light on it.

### **Historical Context of Digital Transformation**

Today, it is recognized that digital transformation is a hot topic. On the other hand, product concepts (good and service) and digital media were already well defined during the 1990s and 2000s (Auriga, 2016) In the same period, retail sales and advertising campaigns were understood as indispensable digital channels to reach customers. Similarly, purchases were mainly made in stores, often in cash. In the period from 2000 to 2015, there was the rise of smart devices and social media platforms, leading to remarkable changes in the way customers and businesses communicate. There was also a positive evolution in customer expectations in terms of response time and product availability. As a result, companies had realized that they were now able to communicate digitally, but also individually with their customers and often in real time. It is also emerging to have a growing number of digital payment options, including, among others, PayPal, Xoom, etc. contributing towards the improvement of e-commerce. Today, mobile devices are helping to create new value for customers by leveraging the personalized data that mobile technologies can generate at scale. Through mobile devices, companies can better adapt their products, communications, and interactions to the specific needs of customers: this is digital transformation.

### **Defining Elements of the Concept of Digital Transformation**

The formulation of the concept "digital transformation" is not accidental. Similarly, digital transformation varies depending on the company. Therefore, it is difficult to find a definition that applies to all. However, in general terms, several authors (Berman, 2012; Bouwmana, Nikoub, & Reuver, 2019; Deloitte, 2020; Khanboubi & Boulmakoul, 2019; L'Houssaine & Safaa, 2020; OECD, 2018; Rhchim & Bentaleb, 2019; Sanae & Omar, 2020) define TD as the application of digital technology across all functions of a business, driving fundamental changes in the way they operate and how they deliver value to customers. For some authors (Commission, 2019; Verina & Titko, 2019; Vial, 2019; Westerman, Calm ejane, Bonnet, & Ferraris, 2011) is a cultural shift that forces companies to experiment often and feel risk taking. This sometimes means breaking with the traditional business models on which companies have been built in favor of renewed practices.

For many authors (Bowersox & Drayer, 2005; Deloitte, 2020; Mazzone, 2014; Westerman et al., 2011), TD is the deployment of technology to change the company's business model. While a few (Bampoky, 2017; Berman, 2012; Bouwmana et al., 2019) conceive of it as a process by which new digital technologies are synchronized and reinforced by connectivity to achieve performance and sustainable competitive advantage. According to these authors, TD is helping to transform several business dimensions, including

the business model, customer experience by simultaneously impacting people and networks. Table 1, developed, reflects the definitions considered more relevant and the concepts extracted for the purposes of this chapter.

**TABLE 1**  
**DEFINITION OF THE CONCEPT OF “HUMAN CAPITAL”**

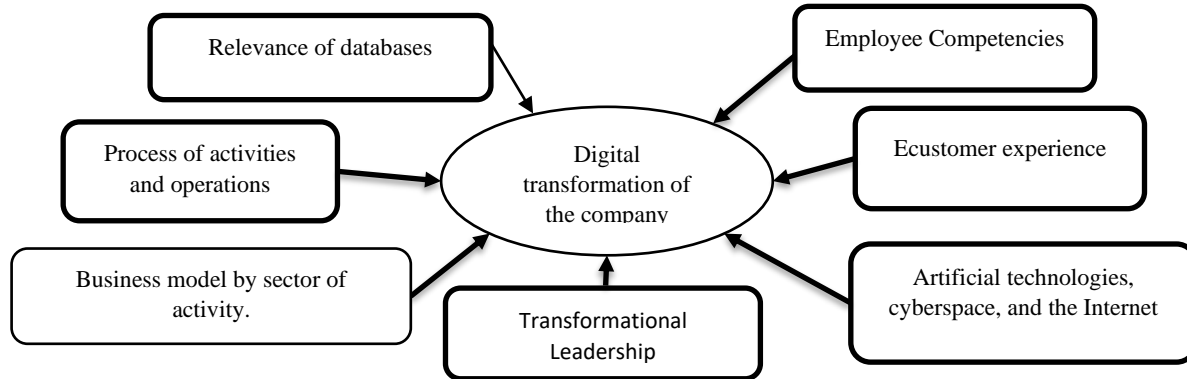
| <b>Authors</b>                  | <b>Definition</b>   | <b>Concept adopted in the context of this chapter</b>  |
|---------------------------------|---|--|
| European Commission (2019)      | Digital transformation is characterized by a fusion of advanced technologies and the integration of physical and digital systems, the predominance of innovative business models and new processes, and the creation of intelligent products and services.  | Technology; business models, intelligence.   |
| Ismail, Khater, and Zaki (2017) | Digital transformation is a process by which companies converge several new digital technologies, reinforced by ubiquitous connectivity, with the goal of achieving superior performance and a sustainable competitive advantage, transforming multiple business dimensions, including the business model, customer experience and simultaneously impacting people and networks.  | Process, new technology, performance, business models, customer experience, networks.            |
| OECD (2018)                     | Digital transformation refers to the economic and societal effects of digitalization and digitalization. Digitalization is the use of digital technologies and data and their interconnection that results in new activities or changes in existing activities.   | Use of technologies, interconnection, change.  |
| Schwertner (2017)               | The application of technology to create new business models, processes, software, and systems that result in more profitable revenues, greater competitive advantage, and greater efficiency. »   | Application of technology, business models, processes, profitability, and competitive advantage. |
| Deloitte (2018)                 | Digital transformation is the use of technology to radically improve the performance or reach of an organization. In a digitally transformed company, digital technologies enable improved processes, engaged talent and new business models.   | Use of technology, performance, engaged talent, processes and business models.                   |
| Bowersox et al. (2005) D        | Digital business transformation is a "process of reinventing a business to digitize operations and formulate extended supply chain relationships. The challenge for leadership is to reinvigorate companies that can already successfully harness the full potential of information technology across the supply chain.   | Processes, digitization of operations; revitalize businesses.                                    |
| Westerman et al. (2011)         | DT, the use of technology to radically improve the performance or reach of businesses, is becoming a hot topic for companies around the world. Leaders across all industries are using digital advancements such as analytics, mobility, social media, and smart embedded devices – and improving their use of traditional technologies such as ERP – to change customer relationships, internal processes, and value propositions. | Improved performance, changed customer relationships, value proposition.                         |
| Mazzone (2014)                  | DT is the deliberate and continuous digital evolution of a company, business model, idea process or methodology, both strategically and tactically. »   | Evolution of the company, strategic business model.  |

Source: Compiled data from the literature (author, 2022)

These definitions are based, for the most part, on the premises of the company’s resources and intellectual capital. They put forward, among others: database management, employee competence,

technology applications, business model and customer experience, etc. Figure 1 summarizes the expressions reflecting the manifestation of digital transformation.

**FIGURE 1**  
**DEFINITIONAL OF THE DIGITAL TRANSFORMATION OF THE ENTREPRISE**



Source: compiled data from the literature (author, 2022)

Looking at Table 1 and Figure 1, digital transformation (TD) is a state of mind, a behavioral construction, and a practice of the relationship between customer, technology, change, leadership, and management of the company’s databases. Thus, based on the different definitions, TD is understood, in the context of this chapter, as:

*“The set of behavioral, organizational, relational changes of an organization or an ecosystem, induced by the intelligent application of new technologies networking actors in all segments of the value chain, allowing it to carry out, in a structured way, the activities to improve its notoriety and its reputation.”*

This definition explicitly highlights four components that will be leveraged as TD success factors. These are the changes in spirit and behavior that refer to human capital, the structure that concerns structural capital, the relational that concerns relational capital and the technological that concerns technological capital. These different capitals but also the exploration of literature (Deloitte, 2020; Sticha, Zellera, Hickinga, & Krau, 2020; Verina & Titko, 2019; Vial, 2019; Westerman et al., 2011; Zaouia & Souissib, 2020) facilitate the identification of the appropriate theory on which our analyses will be based: the theory of the network actor and the theory of resources.

### **Contribution of Network Actor Theory and Resource Theory to Digital Transformation**

#### *Contribution of the Theory of the Network Actor*

The theory of the network actor is concerned with the implementation of the activity within an organization without distinguishing, a priori, its so-called social and technical aspects. The concept of the network actor is based on the idea that for an actor (company) to act, several stakeholders must also be mobilized. In other words, the action of acting is shared with a multitude of people, structures, technology, and relationships. The actors, whether individual or collective, human, or technological, are therefore a mystery whose constitution must be explained; they are not at all the obvious starting point for action. These few premises will have a significant impact on the success of the company’s digital transformation process. More specifically, they will have effects on technology deployment, database management, behavior change, leadership style. As a result, these changes will increase the company’s reputation and strategic positioning.

### *Contribution of Resource Theory*

The central idea of resource theory considers the enterprise as a set of grouping of human, material, informational, financial resources dedicated to the organization and production of goods and services. It considers human capital, structural capital, relational capital, and technological capital as a means of organization and production. According to the perception of resource theory, this capital embodies values and assets to be grown to be the source of a sustainable competitive advantage (Kungwansupaphan & Siengthai, 2012) It is in this perspective that some authors (Chamak & Fromage, 2006; Crook, Combs, Todd, Woehr, & Ketchen, 2011; Nafukho, Hairston, & Brooks, 2004; Vinokur, 2014) have also affirmed that their talents and diversification of human capital, relational capital and technological capital are valuable assets for the process of business transformation. Thus, they suggest that companies set up a management by skills and network (Rhchim & Bentaleb, 2019; Svarc et al., 2021). This is the posture that puts the person at the heart of the initiatives, and seeks the inspiring motivation, the intellectual incentive, the individualized accompaniment, of the collaborators (Buil, Martínez, & Matute, 2019; Buila, Martínez, & Matute, 2018).

### **Digital Transformation Process and Its Success Factors**

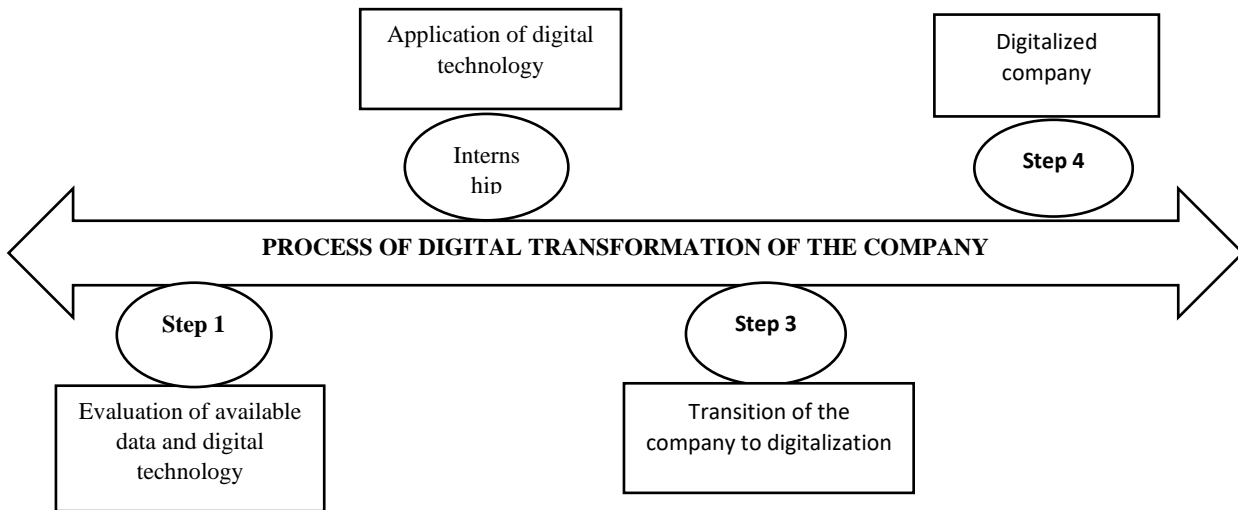
The digital transformation project is a process involving explicitly defined steps. Westerman, Bonnet, and McAfee observe three key areas of the business: customer experience, the process of operations, and the company's business models (Westerman, Bonnet, & McAfee, 2014). On the other hand, Cuesta, Ruesta, Tuesta and Urbiola identify three stages of digital transformation based on the competitive environment of the company, technological adaptation and strategic positioning (Cuesta, Ruesta, Tuesta, & Urbiola, 2015) Klötzer and Pflaum (2017), however, describe the digital transformation process in terms of maturity levels and identify different levels, such as digitalization awareness, smart grids, service orientation and data-driven approaches.

The examination of the different variations suggests the little consensus between the supporters of digital transformation. In the context of this chapter, we consider that the process of the digital transformation project begins with (i) exploration of the needs of customers and the technological resource available within each business of the company. It continues through the examination of (ii) the use of technology in the various functions, which will mark (iii) the transition to digitalization itself. These three steps contribute to (iv) a digital business. The Figure 2 reports in the process of the company's digital transformation.

To successfully carry out the four stages of digital transformation, actors rely on the intellectual capital of the company, but also on the national intellectual capital (Svarc et al., 2021) Several authors generally measure the success of the digital transformation project by the improved customer experience, the increase in employee productivity; cost reduction, the creation of a new business model; better use of existing assets and increased revenues. A tiny part of the authors find that the success of the digital transformation project could manifest itself in terms of reputation, the creation of competitive advantages.

In any case, for several researchers (Sticha et al., 2020; Verina & Titko, 2019), ptd's success has two facets: (i) the success of PTD's reputation and the success of competitive advantage. More explicitly (i) the success of the reputation understood as a criterion which is a measure of the performance due to the deployment of the different resources and (ii) the access of the creation of the competitive advantages is a criterion which measures the value for the benefit of the customers.

**FIGURE 2**  
**DIGITAL TRANSFORMATION PROCESS**

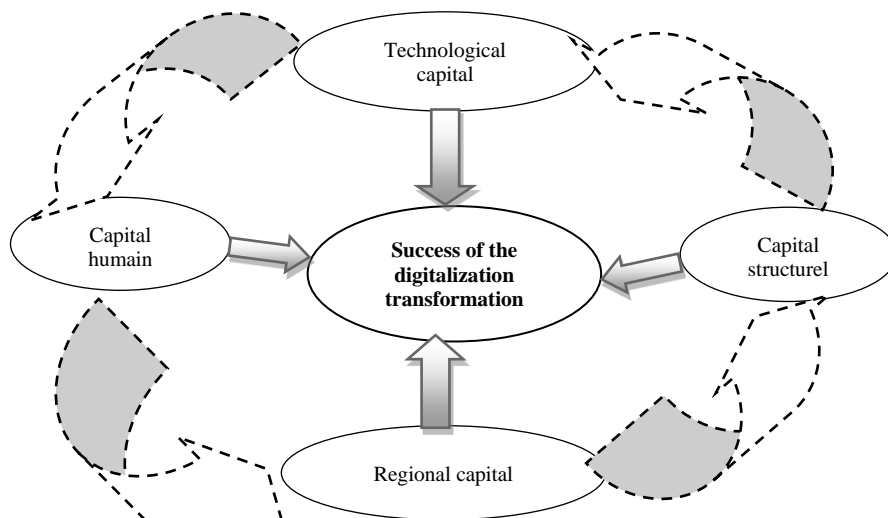


Source: author (2022)

Considering the above, other theorists and practitioners (Deloitte, 2020; OECD, 2018; Rhchim & Bentaleb, 2019; Sanae & Omar, 2020) have devoted work to identifying and analyzing success factors. For example, he believes that the success factors of the company's TD can only emerge from intellectual capital (human capital, structural capital, relationship capital). In line with this position, several authors (Bampoky, 2017; Rhchim & Bentaleb, 2019; Svarc et al., 2021) reveal that the components of intellectual capital play a decisive role in achieving the stages of digital transformation, but do not allow for evaluation.

In this chapter, intellectual capital is broken down into technological capital, human capital, relational capital, and structural capital. Thus, the success of the digital transformation results from the contribution of each of these four capitals. Based on this analysis, this study is based on an analytical framework illustrated in Figure 3.

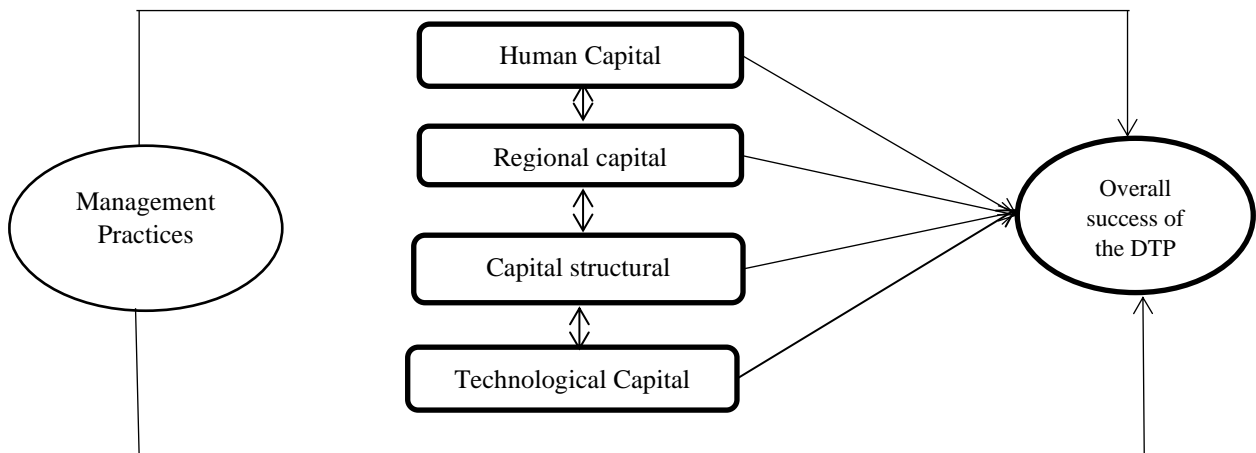
**FIGURE 3**  
**KEY DRIVERS OF DIGITAL TRANSFORMATION SUCCESS**



Source: author's synthesis of literature, 2022

Figure 3 is the manifestation of the renewed conception of the success of the company's digital transformation. It is also described as holistic because it promotes the harmonization of the company's four capitals and gives them equal importance. The literature explored highlights a strong causal relationship between the company's management practices, effective capital management and TD's success. Figure 4 shows the articulation between the key factors that play a key role in TD's success.

**FIGURE 4**  
**COMPONENTS OF THE THEORETICAL FRAMEWORK**

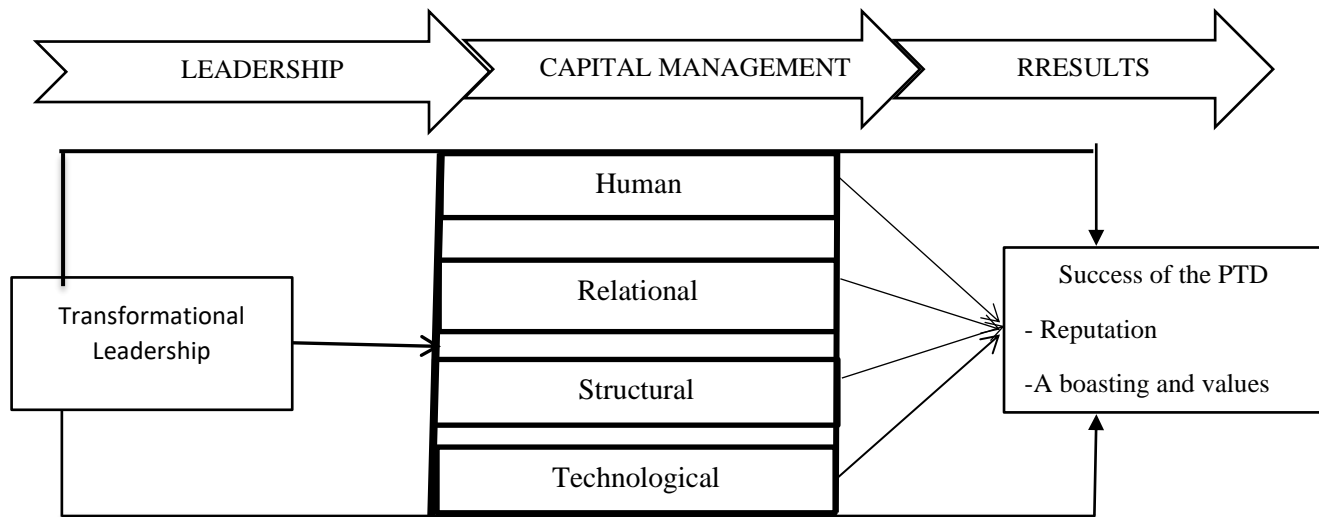


Source: Compiled data from the literature (author, 2022)

According to Figure 4, TD's success is a direct result of the company's four capitals and indirectly of the company's practices. On the other hand, recent work (Buil et al., 2019; Cavazotte, Moreno, & Hickmann, 2012b) reveals that the issue of performance and success is more complex and must be approached from the perspective of the management of excellence according to its three postures: foreman, coach and leader. The results of some work (Sticha et al., 2020; Svarc et al., 2021; Tohanean, Toma, & Dumitru, 2028; Wang et al., 2019) reveal that, despite its importance, it is mainly the dimension of transformational leadership that is least well explored. Indeed, transformational leadership involves, at the same time, human warmth, inspiring motivation, intellectual inspiration, employee mobility, the meaning and vision of action and the relationship of sensuality (Buila et al., 2018; Cavazotte, Moreno, & Hickmann, 2012a). It also imprints on the competence perceived by employees. Similarly, some authors find the transformational leader that fits well with the unpredictable context and the TD process appropriate, as it will mobilize staff to be able to innovate and perform tasks in the most structured way (Cavazotte et al., 2012a; Deloitte, 2020; L'Houssaine & Safaa, 2020).

Considering the above, TD's success, in this chapter, involves the interactions between the style of transformational leadership, the effective management of the company's capital. The articulation of these factors points to three levels that are based on TD's Transformational Leadership–Corporate Capital Management–Results (LGR) paradigm. Figure 5 shows the model on which the results, discussions and recommendations will be generated.

**FIGURE 5**  
**TD'S LGR-BASED SUCCESS MODEL**



Source: Compiled data from the literature (author, 2022)

In the light of Figure 5, the success of digital transformation is understood as the good reputation of the company and the generation of competitive advantages for companies. It begins with the exploration of technology (step 1) through transformational leadership facilitating the effective management of resources. Then, the phase of using the company's technologies (step 2) to bring it to transition to digitalization itself (step 3). The success of these three phases contributes to the qualification of a digitalized company (step 4) which remains the result of resource management and indirectly through transformational leadership. Thus, resource theory postulates that investments in technological, human, structural and relational capital management, fostered by transformational leadership, contribute to the success of the TD process.

### Formulation of Research Hypotheses

Our thinking, which is based on Figure 5, is built around the premise that, thanks to transformational leadership, the companies studied effectively manage their capital, which contributes to the success of the digital transformation project. We take the general assumption that TD's success is a multidimensional construct: it is fostered simultaneously by the management of the four capitals and, indirectly, by transformational leadership. Four adjacent hypotheses are suggested.

#### *Human Capital Management and TD Process Success*

Human capital is an inimitable resource of the company. It is on him that the object of the company's reputation and notoriety rests (Mignenan, 2020a) Human capital management (HCM) focuses on the development of an agile environment, the autonomy of teams, mobility. More broadly, it consists of integrating, in the budget of the organization, a line of expenditure dedicated to activities that can enrich and develop the skills of the staff. Therefore, economists and HRM specialists believe that investment in the continuous training of employees is working towards digital transformation. For many authors (Mignenan, 2021b; Rhchim & Bentaleb, 2019; Sanae & Omar, 2020) effective human capital management is an essential lever for success. However, its effectiveness for digital transformation is unknown. Considering this observation, the first research hypothesis below is formulated:

***Hypothesis 1. Managing human capital enhances TD's success.***



### *Technology Capital Management and TD Success*

Technology is considered the primary enabler of the TD process. It is part of the equation of choice and basic needs on which success depends. Its management refers to the mechanisms of activation, updating and, to a large extent, renewal of technology, depending on the customer experience of the company. It is considered the preferred factor for the success of all stages and, therefore, relevant to the digital transformation. Several authors (Ganguly, 2015; Wang et al., 2019; Westerman et al., 2014) assert its undeniable explanatory power on success in terms of competitive advantages, notoriety, and reputation. This leads us to formulate the second hypothesis as follows:

***Hypothesis 2.*** *The management of technological capital generates the success of digital transformation.*

### *Relationship Capital Management and TD Success*

The third hypothesis focuses on the management of relational capital to explain the success of digital transformation. Indeed, the management of relational capital is understood in terms of improving customer relations, diversifying business networks and financial and technical partners. Sales and marketing managers agree that when the digital transformation project is based on real needs and customer expectations, it would promote the creation of competitive advantages and good reputation (Singh, Tan, & Mookerjee, 2011; Welbourne & Pardo-del-Val, 2009) According to these authors, the reputation and the creation of the company's values are mainly explained by the quality of the management of relational capital driven by the digital transformation. Starting from this relationship, we suggest the following third hypothesis.

***Hypothesis 3.*** *The more company improves the management of its relational capital, the more varied the success of its digital transformation would be in terms of reputation and benefit creation.*

### *Structural Capital Management and TD Success*

Structural capital is a set of procedures, rules, methods, governance, managerial style, which support organizational practices (Bessieux-Ollier & Walliser, 2010; Borges & Filion, 2016). The management of structural capital is based on the improvement of these working methods. It is also based on the organizational structure and refers (Bessieux-Ollier & Walliser, 2010; Borges & Filion, 2016) to the philosophy of agility and continuous improvement, which are factors for the success of the transformation (Mignenan, 2020b). Renewed approaches to project management consider the agile environment as a positively and statistically significant factor associated with the success of digital transformation. Based on these results, we make the following fourth hypothesis:

***Hypothesis 4.*** *The success of digital transformation is largely the result of the flexibility of the company's structural capital.*

The four assumptions are backed by the general assumption set out above that:

*General hypothesis: the success of the digital transformation of the companies studied is explained directly by the integration of the four resource capitals and indirectly by transformational leadership.*

Indeed, the subject of leadership has been the subject of academic studies for several decades. However, empirical work in the context of digital transformation is rare. Studies on transformational leadership have shown its great relevance for organizations that engage in the process of change (Buil et al., 2019; Buila et al., 2018). The literature exploration has highlighted four dimensions of transformational leadership: idealized influence, intellectual stimulation, inspiring motivation, and individualized consideration.

To ensure that the theoretical, methodological, and managerial relationships between the variables of the hypotheses are reflected, an appropriate methodology is essential. This is the subject of the following sequence.

## METHODOLOGICAL PATH

### Approach

Proponents of digital transformation theory agree on its multidimensional nature, but also on its complexity. Thus, proposing and testing a model of success of such a construct calls for the mobilization of a mixed methodological framework. Thus, the hybrid methodology, simultaneously mobilizing qualitative and quantitative approaches, was advocated.

Initially, the documentary exploration was carried out, because it is the method par excellence, to identify the factors frequently put forward in the justification of the success of the digital transformation project. The analyses of the relevant literature helped to draw the portrait of the digital transformation of the company and the related process. It is also through the documentary analysis that the different theoretical currents around the digital transformation have been identified.

Next, we conducted the semi-directive interview, widely used in economics and management work. In this type of interview, our interlocutors have a range of freedom to deliver the complete information. We conducted 18 semi-structured, one-on-one, face-to-face and telephone interviews with those responsible for personnel management, sales, and IT services. These different actors on the front line of digital transformation have voluntarily agreed to lend themselves to our open questions. These 18 department heads come from twelve companies in three sectors of activity. These were selected because of their level of digital transformation and their reputation in Chad.

The conduct of the interview is preceded by the development of the semi-directive interview guide. The construction of the guide is based on the information generated from the literature. The main articulations of the guide relate to the following six themes:

- Theme 1: Transformational Leadership
- Theme 2: Human Capital Management
- Theme 3: Technology Capital Management
- Theme 4: Relational Capital Management
- Theme 5: Structural Capital Management
- Theme 6: Access to digital transformation

Respondents were easily familiarized with the content of the interview guide. This is an advantage that helped to reach the saturation threshold after conducting the 17th interview. Each interview lasts an average of 25 minutes. Table 2 presents the characteristics of interview respondents.

**TABLE 2  
CHARACTERISTIC OF INTERVIEW RESPONDANTS**

| Company information       |                |             | Interview information |                  |                           |   |                        |
|---------------------------|----------------|-------------|-----------------------|------------------|---------------------------|---|------------------------|
| Status                    | Sector         | Medium size | Date/period interview | Average duration | Seniority in the position | Category                                | Number of interviewees |
| Limited liability company | Dairy products | 51          | May to July 2021      | 26 minutes       | 7-15                      | Head of Sales and Marketing Departments | 8                      |

|                            |   |     |  |            |      |  |    |
|----------------------------|---|-----|--|------------|------|--|----|
| Public limited company     | Banking, mobile telephony, oil, beverages | 212 |  | 28 minutes | 5-11 | Sales and Marketing Managers, IT Departments | 7  |
| Economic interest grouping | Pasta and flour                           | 37  |  | 22 minutes | 4-9  | Heads of Commercial Departments              | 3  |
|                            |   |     |  |            |      |  | 18 |

Source: Compiled data from the literature (author, 2022)

We performed lexical analysis and thematic content analysis to highlight the opinions of our respondents. The approach of these two types of qualitative analysis is presented in Table 3. Then, an analysis grid was developed according to the six themes from the interview guide initially developed for the need. This grid has been filled in according to the code of the interviewees and the units of analysis, which are subject to vertical and horizontal analyses, accompanied by a summary table.

**TABLE 3**  
**ANALYSIS TECHNIQUES**

| <b>Nature of qualitative analysis</b> | <b>Components</b>                                | <b>Relevance indicators</b>  |
|---------------------------------------|--|--|
| Lexical                               | Words regularly used; phrases frequently emerged | Type and quality of vocabularies used.<br>E.g.: frequency of word appearance, the average number of words per sentence, etc. |
| Thematic                              | Paragraphs, Sentences, themes                    | Thematic cutting mode<br>E.g.: frequency of appearance of themes, frequency of association                                   |

Source: Inspired by Evrard et al., 2005

Lexical analyses and thematic content analyses have highlighted facets of the company's digital transformation success. Therefore, the results confirmed the contribution of the company's resources (capital) in the process of the success of the digital transformation. Similarly, these analyses have played a decisive role in identifying the words and themes frequently raised by the department heads of the companies studied to inform the success of the digital transformation.

Thirdly, we have addressed the explanatory phase which is based on the hypothetical-deductive approach translated by four hypotheses. The choice of hypothetical-deductive reasoning is justified by the plethora of recent literature on digital education. The data was produced through face-to-face and online surveys (on a five-point Likert scale) from April to June 2021. The development of the items preceded the formulation of the questionnaire, which is composed mainly of verbatim supplemented by data from the relevant literature. The questionnaire developed was pre-tested with 24 personnel managers and managers of design offices in digital transformation. These respondents were chosen based on criteria of expertise in the digitalization of companies.

To obtain the sample size, the approach recommended by Igalens and Roussel (1998) was used. This approach states that the sample size is proportional to the number of items. Indeed, there are 5 to 10 times more respondents than there are items describing the buildings under study. Thus, in total, 30 items were generated to appreciate the 6 built. Thus, we have 5 x 25 and 10 x 25, between 125 and 250. We chose to interview 250 respondents who were considered reporting units. The 250 respondents come from six companies in three sectors of activity (Anie-Tchad, 2017) The questionnaire was sent to the various managers whose departments are primarily concerned with digital transformation. After three reminders, a

total of 198 questionnaires were received; 79.2% of them were used in the analysis. Table 4 presents the characteristics of the field enterprises in this research.

**TABLE 4  
CHARACTERISTICS OF SIMPLE**

| No    | Status | Sector                             | Size (N) | Swimming sample |  |                       |
|-------|--------|------------------------------------|----------|-----------------|--|-----------------------|
|       |        |                                    |          | Size (sample)   | Hierarchical level   | Experience (in years) |
| 1     | SARL   | Dairy products                     | 26       | 15              | Commercial agents, IT technicians and middle managers  | 1 to 2                |
| 2     |        | Fruit jams                         | 25       | 15              |  |                       |
| 3     |        | Pasta                              | 22       | 15              |  |                       |
| 4     |        | Bakery                             | 24       | 15              |  |                       |
| 5     | HIS    | Banking institutions               | 75       | 50              | Commercial agents, heads of commercial departments, heads of commercial studies sections and | 1 to 3                |
| 6     |        | Alcoholic and carbonated beverages | 62       | 40              |  |                       |
| 7     |        | Mineral water                      | 55       | 35              |  |                       |
| 8     |        | Mobile phone companies             | 65       | 35              |  |                       |
| 9     | GIE    | Shea butter                        | 51       | 15              | Technicians and middle managers in the sales department                                      | 1 to 3                |
| 10    |        | Peanut butter                      | 40       | 15              |  |                       |
| Total |        |                                    | 450      | 250             |  |                       |

Source: Compiled data from the literature (author, 2022)

### Variables and Measures

The measures used in this research build on previous qualitative and quantitative studies (Arioli, 2021; Bouwmana et al., 2019; Buil et al., 2019; Buila et al., 2018; Mignenan, 2021b; Rhchim & Bentaleb, 2019; Sanae & Omar, 2020; Schallmo, Williams, & Boardman, 2017; Schwertner, 2017; Sticha et al., 2020; Verina & Titko, 2019; Vial, 2019). We have adapted them to the context of companies that have implemented projects for the digitalization of their function.

#### Independent Variables

We borrowed indicators from the interview results and those commonly used in assessing and measuring the success of digitalization through intellectual capital:

About transformational leadership, we considered four indicators (i) idealized influence (ii) intellectual stimulation (iii) inspiring motivation and (iv) individualized consideration.

For the management of human capital, we have focused on: (i) staff renewal (ii) diversity of skills; (ii) the agile environment; (iii) further training (iv) empowerment and (v) risk taking.

Regarding the management of technological capital, we have selected the following four indicators: (i) technological renewal; (ii) updating the technology; (iii) maintenance and repair (iv) technology planning.

For the management of relational capital, we have chosen: (i) updating the database (ii) the richness of networking; (ii) customer experience; (iii) the customer relationship.

For the management of structural capital, the focus is on: (i) labour standards, working methods and models (ii) ethical and ethical values; (iii) flexibility of organizational structure; (iv) digitalization standards.

The variables explored used five-point Likert scales (ranging from [1] strongly disagree to [5] strongly agree). The alpha reliability (Cronbach coefficient) of the scale's ranges from 0.88 to 0.94.

*Dependent Variable (Success of Digital Transformation)*

The indicators put forward focus on: (i) the level of reputation (ii) the quality of the benefits created; (iii) the level of strategic positioning. Responses were obtained using a Likert scale (ranging from [1] strongly disagree to [5] strongly agree). The alpha reliability of the scale is 0.82.

**RESULTATS, DISCUSSION, IMPLICATION, AND LIMITATIONS**

This sequence presents, respectively, the qualitative results (interview reports) and quantitative results (explanatory analysis). The results are discussed, and the implications are highlighted.

**Results**

Qualitatively, we have highlighted the full reports initially generated. Table 5 presents the portrait of these reports.

**TABLE 5  
FULL INTERVIEW REPORTS**

| <b>Variables tested</b>     | <b>Verbatims</b>  |
|-----------------------------|---|
| Transformational Leadership | <p>I believe that, on an individual basis, I have been able to influence the behavior of my employees ideally; I have frequently aroused strong emotions in them. I think my attitudes have been a catalyst in the success of our project to digitize the sales department.</p> <p>Throughout our digital transformation project, we have inspired sales and IT staff. We were able to impress an attractive and inspiring vision for our employees and provide them with stimulating tasks and increased expectations.</p> <p>As far as we are concerned, we have managed to stimulate the staff intellectually to cope with the problems associated with the process of digitalization of our company. We encouraged them to develop innovative or creative approaches to solving these problems.</p> <p>As far as I am concerned, I believe I have put forward individualized considerations including the support, encouragement, and guidance of my staff throughout the process. If our digitization project is carried out by most of the staff involved and is successful, this is due, in part, to the individualized consideration.</p> |
| Human Capital Management    | <p>Within our organization and in the context of digitalization, we have prioritized the diversity of our employees' skills in all departments. This was instrumental in the success of our project.</p> <p>I think that beyond the diversity of skills, we have an agile environment allowing our employees to be more fulfilling, more autonomous. If the project of the digitalization of the sales department is a total success, it results, in part, from the agility of our employees.</p> <p>As required by law, we have made further training of our employees a right and non-negotiable priority.</p> <p>I think we have prioritized staff empowerment, and this has had a positive effect on the effectiveness of our employees.</p> <p>We believe that in the context of the digitalization of our functions, our employees have largely developed the risk-taking posture, which contributes to the success of our project.</p>   |

|                                      |  |
|--------------------------------------|--|
| Technology<br>Capital<br>Management  | <p>As part of the growth policy, we have ensured technological renewal in all functions of the company.</p> <p>We have instructed the IT department that ensures the update of software and other applications used in our services. The databases are regularly updated. This has helped to maintain the notoriety and reputation of our company.</p> <p>We note that the technical service regularly ensures the maintenance and repair of our equipment. These actions have played an important role in the transition to digitalization and make our company digitalized.</p> <p>I think that if you explore our 2020-2025 strategic plan, you will explicitly discover the objectives related to our technological resource. The importance given to technological capital has contributed greatly to the success of the digitalization of our main functions.</p> <p>I believe that in the new strategic plan, the objectives for the provision of equipment for digitalization are clearly defined and several activities are already being carried out.</p>                              |
| Relational<br>Capital<br>Management  | <p>You can see: the database on the company's website is always up to date. More specifically, the description of our products, prices, promotion is regularly updated. This action improves the notoriety and reputation of the company.</p> <p>Over the past five years, the digitalization initiative has effectively contributed to enriching our business network and improving our strategic positioning in the competitive environment.</p> <p>We emphasize the importance of customer experience management, which is in line with our digital transformation policy.</p> <p>We can note that the reception service, customer service, after-sales service is significantly improved, which offers a good image of the customer relationship of our company.</p>   |
| Structural capital<br>management     | <p>Our working standards, working methods and models, currently in force, offer a wide range allowing all staff to be responsible and flexible in the structured execution of tasks related to the digitalization of the company. This is what makes us a truly digital company.</p> <p>I would say that the ethical and ethical values shared and carried by all employees have played an undeniable role in the success of the reputation of digitalization. It is true that I am not the ethics specialist, but I would add that our ethical values go a long way in building our reputation.</p> <p>If the IT department and the sales department appear as the main ones carry the flexibility of organizational structure.</p> <p>We are considering the development of the benchmark for the digitalization of the commercial function in view of the success recorded and the experience gained in this area. As part of our digitization project, we realized that thanks to the procedures contained in the repository, the digitization process was well conducted in all stages.</p> |
| Success of digital<br>transformation | <p>I would say that reputation is an ongoing process, if we achieve success at this level, it is due, directly to the effectiveness of our capital management practice and indirectly to our transformational leadership style that imprints every leader at the level of supervisors, middle managers, and senior executives of the company.</p> <p>Yes, but because of the quality of the benefits created, including access to business and marketing information are the result of the effective management of human capital, relational capital, and technological capital.</p> <p>Thanks to the digitalization of the commercial function, the level of strategic positioning on the competitive environment in terms of creating new markets, notoriety is considerably increased.</p>  |

An examination of the verbatim in Table 5 reveals the explanatory power of capital, but also of the transformational leadership style in the process of successful digital transformation. In addition, the analysis identified new concepts (emerging variables) raised by respondents to explain how capital is managed and how the transformational leader behaves for success. Table 6 shows the result.

**TABLE 6**  
**NEW VARIABLES FROM INTERVIEW REPORTS**

| <b>Variables tested</b>           | <b>Emerging variables</b>  |
|-----------------------------------|--|
| Transformational Leadership       | Human warmth of the leader   |
| Human Capital Management          | Telecommuting and happiness at work  |
| Technology Capital Management     | Acquisition of cutting-edge technologies, technologies dedicated to digitalization |
| Relational Capital Management     | Collaborative work   |
| Structural capital management     | Organizational flexibility; risk tolerance and organizational autonomy.            |
| Success of digital transformation | Creation of new values for the benefit of customers.                               |

At the correlational level, the mean and standard deviation (Ec.T.) parameters are highlighted in Table 7. In general, respondents in the companies studied perceive capital management, but also transformational leadership as significant factors in the success of all stages of the digital transformation process. Indeed, they report that managing human capital increase reputation success and benefit creation with an average of 4.3 out of 5 (S.T. = 1.83). They report having effectively managed the technological capital, from the exploration stage to the stage of the digitalized enterprise, with an average of 4.1 out of 5 (Ec.T. = 1.45). Then, they point out that their company has been able to improve the practices of relational capital management, which has led to the success of the reputation and creation, from the exploration stage to the digitalized enterprise stage, with an average of 3.8 (Ec.T.= 1.63). Similarly, respondents reveal that the management of structural capital also played a more or less important role in the success of a reputation, the implementation of the digitization project, in stages 1, 3 and 4, with an average of 2.8 (EcT.= 1.35). Finally, they emphasize that the style of the transformational leader is an undeniable catalyst in all stages of the digitalization process to generate the success of the implementation and reputation with an average of 3.8 (EcT = 1.55). In short, respondents see capital management as more catalysts to implement and drive the project process of digitalizing the company successfully. These results are certainly all positive, although interviews reveal some divergent points of view, particularly in terms of structural capital management. The results also show that our respondents share the efforts made by top management in terms of the transformational vision they embody. Indeed, they highlight initiatives in the field of agility, human warmth, teleworking, the acquisition of advanced technologies, etc. as factors to be promoted in the process of implementing the digitalization project.

Finally, Table 7 also presents the strong correlational results between certain variables. More specifically, human capital management (HCM) has the strongest correlation ( $r= 0.89$ ;  $p <.01$ ) and statistically positive with the success of digital transformation (STD. Technology capital management (TCM) is the second highly correlated factor ( $r = 0.83$ ,  $p <.01$ ) and statistically positivity to the STD. Relational capital management (CRM) comes in third place with a positive and statistically significant correlation ( $r = 0.81$ ,  $p <.01$ ). Finally, structural capital management is positively but statistically weakly associated with STD ( $r = 0.33$ ,  $p <.01$ ). These results converge with the reports of the semi-structured interviews in Table 7, which results are consistent with the four research hypotheses initially formulated.

**TABLE 7**  
**MEANS, STANDARD DEVIATIONS AND CORRELATIONS BETWEEN VARIABLES**

| <b>Variables</b>                      | <b>Average (S.T)</b> | <b>STD</b> | <b>GCH</b> | <b>GCT</b> | <b>RCM</b> | <b>BSC</b> |
|---------------------------------------|----------------------|------------|------------|------------|------------|------------|
| Digital Transformation Success (STD)  | 3.75 (1.55)          | 1          |            |            |            |            |
| Human Capital Management (HCM)        | 4.3 (1.83)           | 0.89**     | 1          |            |            |            |
| Technology Capital Management (TCM)   | 4.1 (1.45)           | 0.83**     | 0.72**     | 1          |            |            |
| Relationship Capital Management (CRM) | 3.8 (1.6 3)          | 0.81**     | 0,67**     | 0.48**     | 1          |            |
| Structural Capital Management (SCM)   | 2.8 (1.3 5)          | 0.33**     | 0.51**     | 0.46**     | 0.38**     | 1          |

\*\*p< ,01

These initial results lead us to conclude that, if each company effectively improves its capital management practices during each hour of the implementation process of its digitization project, from the exploration stage, it will achieve success in the implementation, reputation and creation of benefits and values.

To test all four hypotheses, we deployed multiple regression method with stepwise variable entry. This variable selection approach offers a range of possibilities for verifying the variation in the coefficient of determination R2 of each explanatory variable added to the model equation. The data was analyzed using IBM SPSS 23.0 software. Table 8 presents the results.

***Hypothesis 1. Human Capital Management Increases the Success of Digital Transformation.***

In terms of quality, the department heads interviewed are unanimous on the importance of continuously improving intellectual capital management practices, as it is an essential lever in the project process of the company’s digital transformation:

[...] within our company and, in the context of digitalization, we have prioritized the diversity of our employees’ skills in all departments. This was instrumental in the success of our project. I think that beyond the diversity of skills, we have an agile environment that allows our employees to be more fulfilling and more autonomous. Thus, if the project of the digitalization of the sales department is a total success, it results, in part, from the agility of our employees. As required by law, we have made further training of our employees a non-negotiable right and priority. I think we have prioritized staff empowerment, and this has had a positive impact on the effectiveness of our employees. We believe, in the context of the digitalization of our functions, that our employees have largely developed the risk-taking posture, which contributes to the success of our project.



Quantitatively, human capital management significantly predicts the success of digital transformation (STD). Indeed,  $R^2$ , which estimates the contribution of each variable to the proposed model, delivers a significant contribution ( $R^2 = 0.23$ ,  $p < .00$ ) from the GCH to the STD. In other words, HCM accounts for 23% of the change in STD of the companies studied. The standardized coefficient ( $b = 0.22$ ) means that with each improvement in the HCM quality scale, the predicted company's STD-level increases. Whereas, the standardized beta coefficient ( $\beta = 0.25$ ), which expresses the regression coefficient of the HCM variable, shows that this variable contributes to the prediction of the STD and this when considering an increase of a standard deviation of the variables. The value of the T-test ( $t = 8.72$ ;  $p < .00$ ) indicates that the contribution of HCM to the explanation of the firm's STD level is statistically significant. These results confirm hypothesis 1 on predicting the company's STD by improving the quality of human capital management practices.

***Hypothesis 2. The Management of Technological Capital Generates the Success of Digital Transformation.***

Qualitatively, it appears in the opinion of HR managers that:

[...] As part of the growth policy, we have ensured technological renewal in all functions of the company; We have instructed the IT department that ensures the updating of software and other applications used in our services. Customer databases are regularly updated. This has helped to maintain the notoriety and reputation of our company; It should be noted that the technical service regularly ensures the maintenance and repair of our equipment. These actions have played an important role in the transition to digitalization and make our company digitalized. I think that if you explore our 2020-2025 strategic plan, you will explicitly discover the objectives related to our technological resource. The importance given to technological capital has contributed greatly to the success of the digitalization of our main functions.

These opinions testify to the importance of the management of technological capital as a relevant instrument for the success of the digitalization of the company.

Quantitatively, Technology Capital Management (TCM) practices also predict the success of digital transformation (STD). Indeed, according to the data in Table 8, the coefficient  $R^2$  shows a significant contribution ( $R^2 = 0.22$ ,  $p < .00$ ) of the GCT on the STD. In other words, the GCT explains an additional 22% of the change in the STD of the companies studied. The coefficient ( $b = 0.28$ ) means that with each improvement in the GCT quality scale, the STD-level increases. The same applies to the beta coefficient ( $\beta = 0.23$ ). The T-test value ( $t = 8.62$ ) indicates that this contribution to the explanation of the STD level is significant. Such results confirm hypothesis 2.

***Hypothesis 3. The more company improves the management of its relational capital, the more varied the success of its digital transformation would be in terms of reputation and benefit creation.***

The results of the interview show that improving the management of relational capital has an explanatory power on the success of digital transformation in terms of reputation.

[...] You can see: the database on the company's website is always up to date. More specifically, the description of our products, prices, promotion is regularly updated. This action improves the notoriety and reputation of the company. Over the past five years, the digitalization initiative has effectively contributed to enriching our business network and improving our strategic positioning in the competitive environment. We emphasize the importance of customer experience management, which is in line with our digital transformation policy. We can note that the reception service, customer service, after-sales service is significantly improved, which offers a good image of the customer relationship of our company.

These opinions demonstrate the importance of THE GCR in the process of implementing the digital transformation project.

Quantitatively, relational capital management (CRM) significantly predicts the success of digital transformation (STD). The coefficient  $R^2$  shows a significant contribution ( $R^2 = 0.64$ ,  $p < .00$ ) of the HCC experiment. In other words, the GCR explains an additional 16% of the variation in the STD of the companies studied. The coefficient ( $b = 0.31$ ) means that with each improvement in the GCR quality scale, the STD-level increases. The same applies to the beta coefficient ( $\beta = 0.34$ ) which testifies to this same contribution. The T-test value ( $t = 8.87$ ) indicates that this contribution to the explanation of the STD level is significant. Such results confirm hypothesis 3.

***Hypothesis 4. The Success of Digital Transformation Is Largely the Result of the Flexibility of the Company's Structural Capital.***

Qualitatively, proponents of structural capital management (SCM) believe that administrative procedures, work rules, collective learning, self-organization, and teamwork are factors that influence positively the success of digital transformation (STD).

[...] Our working standards, working methods and models, currently in force, offer a wide range allowing all staff to be responsible and flexible in the structured execution of tasks related to the digitalization of the company. This is what makes us a truly digital company. I would say that the ethical and ethical values shared and carried by all employees have played an undeniable role in the success of the reputation of digitalization. It is true that I am not the ethics specialist, but I would add that our ethical values go a long way in building our reputation. If the IT department and the sales department appear as the main ones carry the flexibility of organizational structure. We are considering the development of the benchmark for the digitalization of the sales function in view of the success recorded and the experience gained in this area. As part of our digitization project, we realized that thanks to the procedures contained in the repository, the digitization process was well conducted in all stages.

Finally, according to Table 8, capital management structures predict positively, but weakly, the success of digital transformation (STD). The coefficient  $R^2$  ( $R^2 = 0.75$ ,  $p < .00$ ) shows a significant contribution of the GCS on the STD. This means that the GCS explains 11% of the additional variance of the STD of the companies studied. The regression coefficient ( $b = 0.17$ ) means that with each improvement in the quality of the GCS, the level of the STD increases. Similarly, the beta coefficient ( $\beta = 0.19$ ) shows that GCS contributes to the prediction of STD. The T-test value ( $t = 8.92$ ) indicates that this contribution to the explanation of the STD level is significant. Such results confirm hypothesis 4.

Ultimately, although each variable significantly predicts the construction of the SDT, it is the combination of the four factors that plays a decisive role ( $R^2 = 0.75$ ) in the prediction of the SDT. As a result, all four hypotheses were supported by the results.

Hence the general hypothesis is also supported by the results:

[...] I believe that, individually, I have managed to influence the behavior of my employees in an ideal way; I have frequently aroused strong emotions in them. I think my attitudes have been a catalyst in the success of our project to digitize the sales department. Throughout our digital transformation project, we have motivated sales and IT staff in an inspiring way. We were able to create an attractive and inspiring vision for our employees and provide them with challenging tasks and increased expectations. As far as we are concerned, we have managed to intellectually stimulate the staff to face the problems related to the process of digitalization of our company. We encouraged them to develop innovative or creative approaches to solving them with these problems. As far as I am concerned, I believe I have put forward individualized considerations including the

support, encouragement, and guidance of my staff throughout the process. If our digitization project is carried out by most of the staff involved and is more successful, this is due, in part, to the individualized consideration.

**TABLE 8**  
**PREDICTORS OF COMPETITIVE HUMAN CAPITAL IN THE WORPLACE**

| <b>Variables</b>      | <b>R<sup>2</sup></b> | <b>b</b> | <b>β</b> | <b>t</b> | <b>p</b> |
|-----------------------|----------------------|----------|----------|----------|----------|
| Constant              |                      | 2,17     | 2,37     | 8,62     | ,00      |
| Human capital         | 0.23                 | 0.22     | 0.25     | 8,72     | ,00      |
| Technological capital | 0.45                 | 0,28     | 0.23     | 8.62     | ,00      |
| Relational capital    | 0,64                 | 0.34     | 0.31     | 8,82     | ,00      |
| Structural capital    | 0.75                 | 0.17     | 0.19     | 8.02     | ,00      |

### **Discussion**

The chapter aimed to propose and test a model of the success of the digital transformation project based indirectly on transformational leadership and, directly, on the management of the company's intellectual capital.

In general, it appears from the results of this study that the transformational leadership mediated by the intellectual capital management practices of the companies studied contributes to the success of digital transformation from the exploration stage to digitization. This result is significantly in line with previous work.

Specifically, based on qualitative and quantitative results, human capital management influences, positively and statistically significantly, the success of implementation, reputation, and benefit creation (hypothesis 1) from the exploration stage (Mignenan, 2021a, 2021c). Similarly, it significantly improves and contributes to the prediction of the success of digital transformation (STD). Such results are not accidental. Indeed, human capital, according to the words of several theorists and practitioners, is a heritage of performance and growth that makes it possible to respond to the reactions and daily problems of the digitalization of the company's functions or professions. These results can also be explained by the fact that human capital is a resource by which the company builds its notoriety, but also its reputation. It contributes, for digitalization, to all stages of the process. These results are like those obtained by several previous studies. Indeed, according to the results of these authors, human capital management practices positively and significantly predict the success of the company in all its dimensions.

Secondly, the management of technological capital positively influences the success of the digital transformation (STD) (hypothesis 2) at all stages of the process. Such a result is not surprising considering that technology capital plays an extremely important role in managing the customer experience, reputation and creating the benefits and values of the digitalized company. In this way, the management of technological capital effectively contributes to the implementation of the transformation project, but also to its survival.

Similarly, the management of relational capital contributes to the success of notoriety and reputation because it is on the relationship capital that the definition and improvement of the quality of the company's product is based. Similarly, the success of all stages depends, to a large extent, on the management of relational capital (Mignenan, 2021c). The relationship that emerges between relational capital management and the success of digitalization is positive and statistically significant as suggested by hypothesis 3. The success of the customer relationship and the customer experience depends on the quality of relationship capital management. The fact that such results emerge for the companies studied in Chad extends those from other contexts.

Finally, structural capital management (SCM) also contributes positively, but statistically weakly, to the success of digital transformation (hypothesis 4). Such a result is not surprising given that among the companies studied, some have mechanical management styles that inhibit innovation and therefore

constitute an obstacle to the process of digital transformation. Our results do not corroborate those of the literature (Ganguly, 2015; Gobble, 2018; Matt, Hess, & Benlian, 2015) who report that structural capital rhymes with mobility, agility, and responsiveness. Companies with flexible and therefore agile structures can cope quickly but effectively with the constraints of the environment. Similarly, these results are also explained by the fact that the structures of some of the companies studied are obstacles to innovation, development, collective intelligence, and collaborative work.

Considering the above, we can highlight the importance of the contribution of transformational leadership in all stages of digital transformation. It is the foundation for boosting capital that comes into play in the process of digital transformation. In any case, the success of digital transformation depends rather on the combination of leadership style which is a lever favorable to the enrichment and development of the person considered as a subject of growth and not as a production resource. The second explanation associated with these results is that human capital, technological capital is concepts inserted in a theoretical corpus, but also the result of practices on the ground of daily maneuvers of the company's activities. As our results show so well, the model formulated is an approach, as a resource for action, built in such a way that an initiative in the direction of the digitalization of the company's function is understandable both for the staff themselves and for the company. Has customers. This action is part of the current interpretation of the daily life of digitalization as a subject of reputation and notoriety of the company.

Based on the terms of the discussion, we can consider theoretical, methodological, managerial implications, highlight limitations, and suggest avenues. This is the purpose of the following lines.

## **Implications**

### *Theoretical Implication*

Our chapter aims to contribute to the success of the company's digital transformation to promote digitalization as an instrument of reputation. Previous definitional elements of digital transformation focus on the use of technology. While the success of digital transformation (STD) is apprehended in terms of economic performance. The success factors put forward by previous research are, for the most part, related to the quality of technology and top management. While few tests have been carried out on the relationships between the criteria and success factors. On the other hand, most of the results of previous work have led to the conclusion that technological capital participates effectively in the construction of the STD. But other factors such as humans, relational, structural, and transformational capital management have not been explicitly integrated into the models (Mignenan, 2020b, 2021c). Thus, the main theoretical contribution of this study is to have been introduced, in the theoretical model, the transformational leadership and management of the main capital of the company. It is above all the style of leadership mediated by the combination of the four main capitals of the company that constitutes the major contribution. Similarly, we suggested an operational definition of digital transformation and its success, the need for improvement of which remains.

In addition, we have shown that the process of digitalization of the company consists of four steps s. The success of the digital transformation project is manifested by the success of the implementation, but especially the reputation and the creation of benefits and values. The achievement of these criteria is the result of technological capital management practices, but especially human capital, relational capital, and transformational leadership. In other words, inspiring motivation, intellectual stimulation, agility, diversity of skills, cutting-edge technology, customer experience, flexible organizational structure plays a decisive role in the STD journey. Conversely, a mechanical organizational structure inhibits the development of human capital. This research shows that it is not only technology that delivers the success of the digital transformation project.

Finally, the identification and testing of new variables, including "human capital", "transformational leadership", and "relational capital" constitute the contribution to the valorization of humans in the digitalization project. This perspective, of which the suggested model is the manifestation, had not been the subject of a study that deployed a rigorously empirical mixed estimate.

### *Methodological Implications*

In general, the adoption of simultaneous mixed estimates is the major methodological contribution. Specifically, highlighted new constructs and adapted the contents of items translating the manifestation of (i) transformational leadership (ii) human capital management, etc. in the context of this chapter represent a remarkable methodological contribution. The hypothetical-deductive approach deployed made it possible to highlight items specifically to our context of study. At the end of the correlational and explanatory analyses, several items proved to be reliable and relevant. These include: (i) inspiring motivation; (ii) intellectual stimulation (iii) organizational flexibility; (i (v) technological renewal; (v) risk tolerance; (v (i) training policy and (v (ii) organizational autonomy, etc. These are the items that have been formulated in this chapter. Thus, the reliability and relevance of these items are part of the range of remarkable methodological contributions.

Finally, the mixed estimate deployed is an undeniable methodological contribution. Indeed, this strategy has made it possible to reduce the limits of qualitative and quantitative methods. It is a strategy that has allowed us to have a finer and more complete understanding of the issue of digital transformation and the trajectory of its success. This methodological path was deployed in a phase during which qualitative and quantitative data were generated simultaneously and iteratively. Side-by-side analysis of qualitative and quantitative data documented understudied concepts/variables.

### *Managerial Involvement*

The identification of factors such as transformational leadership, human capital management and relational capital management, which play a significant role in the success of digital transformation, represents a concrete contribution for all actors involved in the digital transformation project process. Indeed, the highlighting of positive and statistically significant relationships between transformational leadership, human capital management, etc. is an indispensable input on which department heads, consultants, and. can rely on to digitize the company.

Similarly, the present study has made it possible to highlight the explanatory power of human capital, technological capital, and relational capital. For structural capital, on the other hand, the results showed that the organizational structure of some enterprises was not very favourable. However, since digitalization is a process, this study recommends that managers, department heads improve the quality of their organizational structure. Specifically, it is desirable that the focus be on the different dimensions of agility and therefore collective intelligence to promote the implementation and success of digitalization.

In any case, this work has shown that the combination of resources underpinned by transformational leadership is an essential lever in the journey towards the overall success of the digital transformation project. This result is fundamental for business leaders who will have to face competition and unpredictable change.

### **Limits and Future Directions**

In addition to contributions, this chapter on digital transformation also has limitations. First, the research results are based on information provided by a sample of 18 respondents from three companies, instead of the companies themselves. Compared to several previous works carried out on digitalization, our work has led, on certain points to similar results, namely that advanced technology has a strong explanatory power on the success of digital transformation. But this result must, however, be viewed with reservations when generalized to other contexts. In our view, success depends on several factors other than technology and, to a large extent, on the leadership style of the companies studied. It therefore seems useful to study, at the same time, more companies, and sectors of activity. The second limitation is that the process of digital transformation and its success have been studied in their static aspect, insofar as respondents, mostly department heads, are invited to give their point of view on the factors that participate. To success and not how the success of their digitalization is perceived by customers. Thus, a holistic approach, integrating the points of view of customers, technical and financial partners, etc., is necessary for future research. In addition, several topics, including the repository for the success of digital transformation, the overall success of digital transformation, are left for future research. This study leaves us convinced that

investments in technological capital, human capital, relational capital, etc. increase the success of the establishment, reputation and creation of the advantages and values of the company. Finally, future research will pay more attention to this issue while introducing other factors, such as corporate governance, the business ecosystem and moderating/mediating variables in the model, the model, as our study tested the direct relationship between the success of digital transformation, capital management and transformational leadership.

## CONCLUSION

The objective of this chapter was to propose a model that integrated the most relevant variables to successfully lead the digital transformation project. The literature exploration identified and integrated five factors that led to the development of the model based on the Leadership-Management-Result (LGR) pillar. Then, unlike previous work, our results showed that it is rather the management of human capital and relational capital that delivers a strong explanatory power on the success of the transformation project. It is the prior contribution of transformational leadership, in its constituents of inspiring motivation and intellectual stimulation that have enabled human capital to perform tasks in a motivated and structured way. This result could be explained by the fact that digital transformation is a question of changing the mindset, developing new skills and not technology. However, it is above all the combination of these four capitals that plays a decisive role in the success of the digitalization of the companies studied. However, it should be noted that the study is conducted without considering contingent factors, including ecosystem and moderating/mediating variables.

Be that as it may, the results of our study lead us to believe that placing the problem of the success of digital transformation at the heart of the strategies of positioning the company in a competitive ecosystem today is a question of obligation and responsibility and not freedom. Thus, the proposed LGR model is an instrument for learning and understanding new behaviors related to unpredictable change. It is also an object of action that would contribute to enriching initiatives to increase the company's performance and notoriety. Moreover, it is, to use the slogan at the Davos Economic Forum in Switzerland (2016), "the only way to understand a new culture and new behavior is to become native. Becoming a native is a process of observation, learning and deepening, practiced like an anthropologist, directly involved in the field and participating closely with its hosts in their cultures." This reiterates the debate on digital transformation as a state of esprit whose person, who appears as an object of success, is inserted into a theoretical and practical corpus.

In addition, the digital transformation of the company is a question of obligation and responsibility, but also of duty, in the sense that no organization should be afraid to commit to it, regardless of its size and resources. If it invests conscientiously in transformational leadership to support the management of its four capitals, it can improve its reputation and create value and then become one of the companies with a good reputation among customers.

Ultimately, it is important to note the importance of going much further in investigating the success of the company's digital transformation. In any case, the major expectations are related to the characteristics of management practices, but also on how to be able to deploy them. Therefore, the field of digitalization still holds a strong research potential whose expectations in terms of conceptualization and model of success are still poorly met.

To promote the implementation of the elements of the conclusion and their follow-up, the formulation of recommendations accompanied by an action plan is essential. The following lines reflect the results.

- I. Recommendation 1: Develop a strategic plan for a digital customer experience.
- II. Recommendation 2: Develop customer experience management standards and instruments.
- III. Recommendation 3: Promote the agile approach in the sales and marketing department.
- IV. Recommendation 4: Improve the governance of digital transformation.
- V. Recommendation 5: Promote a culture of digitalization focused on the customer experience.
- VI. Recommendation 6: Set up the management architecture dedicated to the digitalized enterprise.

These recommendations translate into strategies and targets. Table 8 presents the results.

**TABLE 8**  
**RECOMMENDATION ACTION PLAN**

| <b>Recommendation</b>  | <b>Implementation strategies</b>  | <b>Target</b>                           |
|--|---|---|
| Implementation of the Customer Experience Strategy                               | -Training of staff in customer experience management.<br>-Development of the customer database.<br>-Provision of customer experience management tools;  | Information, sales, and marketing staff |
| Implementation of customer experience management methods and models              | -Training of staff in ethics at the age of digitalization and intelligent and responsible use of social networks.<br>-Development of customer relationship management methods and models              |   |
| Promote Staff Agility  | -Improvement of structural capital through the implementation of flexible standards, benchmarks, methods, and models for customer experience management.<br>-Training of staff in the agile approach. |   |
| Digital Corporate Governance   | -Training of members of management in responsible and intelligent decision-making,<br>-Capacity building of department heads in management and collaborative decision-making.                         | All department heads and top management |
| Development of the culture of digitalization focused on the customer experience. | -Encouraging the emergence of a culture of excellence in customer experience.<br>-Set up a customer listening architecture.   | All staff                               |
| Implementation of managerial architectures dedicated to the digitalized company  | Improved procedures and tools for managing human capital, technological capital, relational capital, and capital structure based on customer experience.  | Top management                          |

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