FACULTAD DE CIENCIAS ECONÓMICAS Y EMPRESARIALES
DEPARTAMENTO DE ADMINISTRACIÓN DE EMPRESAS Y
COMERCIALIZACIÓN E INVESTIGACIÓN DE MERCADOS (MARKETING)

DOCTORAL THESIS

FORCED DIGITALIZATION. BALANCING INTERNAL AND EXTERNAL DRIVERS FOR BUSINESS PERFORMANCE AND SURVIVAL.

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Sevilla, 2023

To my loving parents.

I. Acknowledgments

The achievement of this doctoral thesis represents not only an individual endeavor but also a joint achievement, feasible by the significant contributions and support of numerous people. To them, I extend my deepest gratitude, admiration, and respect.

Among these people are my esteemed thesis directors, Ph.D. Professor Félix Velicia-Martín and Ph.D. Professor Pedro Palos-Sánchez, whose intellectual guidance, scholarly rigor, and solid support have been priceless in defining this research. Your expertise and proficiency in the topic, as well as your commitment to academic excellence, have not only enriched this research but have also provided me with invaluable life lessons in my scholarly quest.

I would be remiss if I did not acknowledge the essential role played by my parents, Pedro and Antonia, whose endless support and sacrifices have underpinned my academic journey and, I would say, my whole life. Thank you, dad and mom. Your enduring trust in my potential has provided the framework on which I have built my academic career. The values you have inculcated in me have operated as my moral compass to convert challenges into opportunities for growth.

Likewise, my gratitude extends to my daughters, Maria and Jimena. Your kindness and patience during this demanding period have not only facilitated my work but also provided me with the necessary emotional support. It is my frankest belief that this thesis might, in some way, encourage you to pursue your own goals with passion and integrity. I will be here to support you.

Sevilla, 2023

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III. Abstract

In recent decades, there has been an acceptance that the digital transformation of businesses, in its most general form, is an asymmetrical process intended to provide greater value in numerous industries. The internal perspective has been used to examine the underlying reasons and motivations of these processes, including causes such as higher productivity, cost savings, company sustainability, and performance improvement. On the other hand, when the drivers supporting digitalization come from outside the organization, such as the development of innovative goods, the establishment of new distribution channels, and shielding against competitors, the phenomenon of digitalization can be understood from an external perspective.

In all instances, the primary factor accounting for this process is the firm's strong determination, which may be explained by both internal and external sources. This phenomenon is seen in the development of digitalization initiatives by organizations, which can be motivated by either internal or external factors and carried out through the business's own decision-making power.

In accordance with this line of reasoning, the current study examines whether the process of digitalization is generally a self-determined decision-making process undertaken by the business, or if, in some cases, it is an imperative and coercive process that occurs regardless of the company's will. Numerous businesses have been driven by the need for digital transformation, regardless of their preconceived notions about the potential benefits of adopting such a strategic approach.

The role of digitalization as an intermediary between many organizational factors, such as consultation, a learning-oriented culture, and resilience, has significant implications. The existence of institutional forces as a significant external element that drives the digital transformation process is widely acknowledged. The effect

of these requirements on the performance of organizations is eased by the participation of consulting services. The importance of resilience, particularly in the context of family businesses, has been recognized as a crucial factor in the competent handling of challenges imposed by externally enforced digitization.

The findings provide a comprehensive understanding of the complex interplay between digitalization and many external and internal organizational variables. The investigation provides a significant contribution to the current scholarly literature by highlighting the mediating effects of digitalization, as well as the influence of external factors and organizational resilience, on business performance and longevity.

The results also provide practical strategies for companies to effectively employ consulting services, improve their focus on learning, strengthen their capacity to absorb novel knowledge, as well as reinforce their resilience. These strategies have the potential to help companies navigate the obstacles raised by institutional factors and achieve a successful digital transition.

In our research, we employed partial least squares structural equation modeling (PLS-SEM) and necessary condition analysis (NCA) as these methodologies enhance methodological rigor and increase the potential for generalization of study findings. This work expands the use of the NCA methodology by applying a methodological approach that efficiently removes outliers. Implementing this particular method has been found to enhance the precision of cluster identification.

This investigation presents a comprehensive synthesis of important findings on the influence of digitalization on organizational performance and longevity, providing valuable information for both academic investigation and practical implementation.

IV. List of Abbreviations.

AEAT	Spanish Tax Administration
AI	Artificial Intelligence
BA	Bibliometric Analisys
BI	Business Intelligence
Ca	Cronbach´s Alpha
CA	Absorptive Capacity
CO	Consultancy
CMB	Common Method Bias
CR	Composite reliability
DI	Digitalization
DT	Digital Transformation
EU	European Union
FL	Fornell Lacker
GDPR	General Data Protection Regulation
IP	Institutional Pressures
KbO	Knowledge-based Organizations
KIB	Knowledge-Intensive Business
KIF	Knowledge-Intensive Firms
LO	Learning Orientation
MICOM	Measurement Invariance of Composite Models
NCA	Necessary Condition Analysis
PbF	Project-based Firms
PCI DSS	Payment Card Industry Data Security Standard
PE	Performance
PLS	Partial Least Squares
PSF	Professional Service Firm
RBV	Resource-Based View
RE	Resilience
RQ	Research Question
SEM	Structural Equation Models
SFDT	Small Firms Digital Transformation
SLR	Systematic Literature Review
SU	Survival
TT	Technological Turbulences
TV	Television
VAT	Value Added Tax
VIF	Variance inflation factor

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CHAPTER 1.
Introduction.

'Principium dimidium totius'
(Erasmus, 1523, p. 69)

The adage 'Principium dimidium totius', attributed to Erasmus of Rotterdam, is generally interpreted as 'beginning is half of a whole' and offers a valuable perspective on the importance of the introduction to any scholarly work.

This aphorism underscores the weight that a valuable beginning can exert on all research development. In the context of our thesis, the introduction not only sets the tone and provides the contextual framework for the work as a whole but also acts as a roadmap that will guide us through the research.

So, in a few words, this introduction is where fundamental questions will be posed, the objectives will be specified, and the relevance of the study will be established.

Moreover, it structures the problem statement within the larger corpus of existing knowledge, offering the intended contribution to that corpus. In this sense, this part is where the doors are opened to intellectual curiosity and our thinking is set in motion, which, according to wisdom, constitutes an indispensable ‘half’ of the investigation. Therefore, the Introduction suggests that the quality and clarity of this initial section are crucial to the success of our overall scholarly endeavor.

Through this prism, this introduction is considered half of everything in the sense that it contains the groundwork for the understanding, analysis, and interpretation that will follow in the rest of this thesis.

1.1 Groundwork and Motivation.

Today, business organizations have unprecedented opportunities to restructure their operations and strategies due to the development of digital technologies. This first section offers a comprehensive investigation of the foundation and driving forces behind the business phenomena of digitization, digitalization, and digital transformation. It combines influential theories and models to clarify the incentives and key factors that drive companies to switch from analog to digital.

The shift from analog to digital has been possible due to the widespread use of digital technologies, which have increasingly become an essential element of company strategy, influencing organizational culture, decision-making, and long-term goals. However, the topic is not without controversy, as the concept of digitalization's borders is somewhat indeterminate.

The primary objective of this thesis is to provide a comprehensive understanding of the foundations established for these technological advances, as well as the motivations driving firms to include digital components in their organizational structures and the benefits of implementing them, even when forced by an external agent.

Three important terms, digitization, digitalization, and digital transformation, collectively describe all these developments. Despite their frequent confusion and similarity, each has distinct effects on how companies perform.

1.2 From the Fourth Industrial Revolution to the Synchronicity Revolution.

Digitalization is changing the way companies, consumers, and public administrations interact, and this is happening so deeply and radically that in a few years, many of the current production and organizational processes will not exist and

many new products, services, and industries will emerge. A study by the European Patent Office (Valdes, 2017) showed that innovations are so abundant that a fourth industrial revolution could be said to be happening.

According to this point, we could say that this Fourth Industrial Revolution is currently obsolete and out of date, giving us a clear sign that technological developments and transformations are creating new business opportunities for scale economies (Schäfer, 2018). We are witnessing the birth of a new system of synchronous organization of production processes, the birth of a new scientific paradigm that could well mean a profound new virtual synchronicity revolution where adaptative change, meaning digital transformation, is giving way to a new type of disruptive digitalization with a more proactive approach (Bharadwaj et al., 2013; Kane, 2019). All of our digital transformation procedures were drastically altered by the recent COVID-19 epidemic, whose effects will last for decades. The COVID-19 crisis, like the tornado in The Wizard of Oz, led us down the 'yellow brick road' of digitalization and digital transformation in business, which, as we have pointed out, resulted in a revolutionary period of synchronicity. To this end, we emphasize that there are occasions when we are compelled to act in a way that is not in line with our values or our free will.

Traditionally, the concept of digital transformation means the integration of digital technologies into business processes with the goal of creating value (Bharadwaj et al., 2013; Hess et al., 2016). That is what happened recently with the health crisis, a catalyst for digital transformation in many organizations. If the digital transformation was initially seen as a way to create value in a company, as a consequence of COVID-19, it was no longer just about creating value, but also about guaranteeing the survival of the company. Therefore, the notion of survival arises from the concept of creation value.

The expanse of digitalization also embraced the concept of servitization (Vandermerwe & Rada, 1988). Servitization is considered an alternative way to create value and improve efficiency. This concept is not new. Servitization is a vertical technological integration that means greater economies of scale, with improved use of technology, to reduce productive resources, intermediate processes, and transaction costs and thus obtain higher sales margins, which all result in a rise in company profit. However, despite all of this and regardless of the growing number of studies, there is still not an elaborate description of the concept. In the last decade, businesses have become more digital, with greater connections between products, processes, and services, but there is still no general definition for companies in any economic sector and no explanation of the benefits. This may be due to the fact that the outcomes of digitalization are different depending on the economic sector where it is developed (Brazo, 2023).

1.3 Conceptual Clarifications.

Along with all the previous considerations, a thorough understanding of the underlying terms such as ‘digitization’, ‘digitalization’, and ‘digital transformation’ is of utmost importance, both for academic research and the entrepreneurial environment. Given the fast digital transformation of the global economy, entrepreneurs must quickly grasp these concepts to manage the increasingly complex business environment. This section will go over these concepts in further detail, presenting both academic foundations and practical applications in an entrepreneurial situation.

1.3.1 Digitization.

The digitization process has seen major changes in accordance with advances in technology and ideas related to organizational management. The

genesis of this concept may be attributed to the transition from analog to digital data, a notion first proposed by Marshall McLuhan. (1962). As networking technology evolved, research focused on encoding and computer processing. Digitization was defined in the 1990s as the incorporation of digital technology into everyday life (Edwards, 1996; Negroponte, 1996). With the introduction of Big Data and artificial intelligence (AI), a new era began in which digitization was viewed as revolutionary for both companies and ordinary life (Davenport & Ronanki, 2018). The most current conceptualizations emphasize the importance of data-driven organizations enabled by digital change initiatives.

On the basis of the preceding debate, it is clear that the idea of 'digitization' has changed in line with multiple periods of technical advancement. This evolution is not a straight line, but rather a complex interaction of technology, social requirements, and organizational skills.

Table 1. The Evolution of the Concept of 'Digitization' in Relation to Technological Advances.

Tech. Advance	Authors	Year	Definition	Example Use Case
Conception	McLuhan Usselman & Edwards	(1962) (1997)	Digitization is the conversion of analog data into digital form.	Conversion of printed documents into digital files
Internet Age	Negroponte	(1995)	Digitization is the process of converting information to bits in order to facilitate data transfer and replication.	Converting Physical Newspapers to Online Formats
	Coyle	(2006)	Digitization is the process of encoding material into a sequence of distinct units.	Converting audio signals to a digital sequence of 0s and 1s
Big Data	Mayer-Schönberger & Cukier	(2014)	Digitization enables the collection of large amounts of data to improve analytics and decision-making.	Capturing vast amounts of customer data for analytics
Internet of Things (IoT)	Miorandi et al.	(2012)	In the context of the Internet of Things (IoT), digitization refers to the incorporation of physical items into digital infrastructures.	Integration of Sensor Data from Physical Machines into Digital Systems
Artificial intelligence	Duan et al.	(2019)	Digitization is the act of converting data into a format that machine learning and AI algorithms can easily handle and evaluate.	Using Natural Language Processing to Analyze Digital Texts
	Praful Bharadiya	(2023)	Digitization is the translation of all forms of data and activities into machine-executable processes, made possible by innovations such as advanced computing, machine learning, and AI, and is therefore an essential component of the current digital ecosystem.	Automating customer service through AI chatbots

As seen in Table 1, each stage of technological advancement has given the term 'digitization' new dimensions, broadening its reach and usefulness across numerous professions and businesses.

Given all of these issues, it is imperative to include academic and business perspectives on this concept. This is crucial because it strengthens conceptual understanding within academia and provides valuable insight for practical application in the business world. On the basis of the aforementioned examples, it is possible to assert the following.

Academic context Digitization is the process of converting analog data and transactions into digital ones. This idea is researched academically under the umbrella of Information Systems Theory (Gregor, 2006), with a particular emphasis on how digital storage and retrieval methods affect data management (Gradillas & Thomas, 2023; Melville et al., 2004).

Entrepreneurial context: From an entrepreneurial point of view, digitization is often the first step toward modernizing a traditional business. It enables efficient data storage, faster data retrieval, and elimination of manual errors, thus facilitating a more streamlined operation that can adapt to market demands (Tallon, 2010). A clear example of digitization was the invention of photocopiers that rendered carbon paper obsolete. Haloid Corporation, later known as XEROX Corporation, obtained a license to create and distribute copying equipment under the name ‘Xerox Machines’, making carbon copy paper obsolete.

1.3.2 Digitalization.

Although the process of digitization is considered essential, digitalization is characterized by a deeper and transformational impact, frequently requiring a detailed review of business models and operational procedures (Ross et al., 2017).

Digitization may be seen as an essential component of digitalization; however, the latter encompasses more than just the implementation aspect of technology. It also includes strategic alignment, change management, and restructuring of value chains (Matt et al., 2015).

Academic context Digitalization refers to the use of technologies to transform or improve business models, creating new opportunities for generating revenue and adding value. Research often delves into this topic using the Resource-Based View (RBV) and Dynamic Capabilities Framework (Barney, 1991; Teece & Pisano, 1994). Digitalization refers to the use of technologies to transform or enhance business models creating new opportunities to generate revenue and added value (Kagermann, 2015).

Entrepreneurial context: Entrepreneurs can greatly benefit from the opportunities presented by digitalization, as it allows them to explore innovative business models that generate revenue. For example, incorporating platforms or integrating AI-driven customer service can give entrepreneurs a competitive advantage. To this extent, adopting operations is not an upgrade; it has become a necessary step for businesses to stay competitive in today's market. The mobile phone industry is a clear example of how invention can lead to innovation, which then leads to digitization and then to digitalization of communications.

1.3.3 Digital Transformation.

Digital transformation requires a greater degree of strategic management and can be considered an ‘output’ or a goal-oriented activity. It refers to a crucial holistic shift in business strategies and systems that will incorporate digital technology across all elements of the organization, with the goal of improving the value proposition and competitive advantage (Matt et al., 2015). Digital transformation, as

opposed to digitalization, which is more of a basic technique, is intrinsically strategic and tries to leverage digital assets to achieve long-term goals such as market distinction, customer engagement, and operational efficiency (Verhoef et al., 2021).

As a result, digital transformation fundamentally builds on the ‘input’ offered by digitalization to produce a strategic ‘output’ focused on building a long-term competitive advantage. This perspective is not simply semantic; it gives a conceptual framework that explains the many functions these terms play in the digital development of businesses (Bharadwaj et al., 2013). To this concern, the integration of academic and commercial perspectives on 'digital transformation' is critical, since it adds to theoretical knowledge in research and enhances its implementation in business.

Academic context Digital transformation involves a comprehensive cultural and operational shift, rethinking not just individual processes, but entire business models and organizational structures, driven by the integration of digital technologies (Ghosh et al., 2018; Matt et al., 2015). Digital transformation implies a significant and essential change in the structure and activity of businesses, which requires an exhaustive re-assessment of organizational structures and social norms. Digital transformation is a holistic initiative that covers every aspect of a business model and organizational structure, in contrast to gradual modifications that target individual processes or tasks (Vial, 2019). The driving force behind this phenomenon is the deliberate incorporation of digital technology into many aspects of business, which includes internal processes, customer engagement, and the creation of value propositions.

Entrepreneurial context: In entrepreneurialism, digital transformation can be a pivotal point in the scaling of a business. It often requires a change in organizational culture, stakeholder relationships, and business operations. Entrepreneurs leading the

digital transformation often act as change agents, influencing not just their business, but potentially the industry at large. In this regard, we might emphasize the case of the industry of sharing vehicles and motorcycles. Today, the idea of transportation has changed from the use of personal automobiles to the use of shared vehicles, but this new business idea could not be implemented without the help of the significant changes brought about by the recent digital transformation. The development of communication, concern for the environment, and other factors have made it practical to use this business model (Westerman & Bonnet, 2015). Similar situations can be seen elsewhere in almost every industry. For example, the hospitality sector, where Airbnb is a clear example, the transportation sector, where UBER and CABIFY are notable examples, or the streaming industry, where NETFLIX and HBO are famous examples.

1.3.4 Digitalization versus Digital Transformation.

The term ‘digitalization’ is frequently associated with technology. It plays the role of an input and a key component in the transformation of conventional information and processes into digital representations. On the other hand, ‘digital transformation’ is a strategy-centric outcome of the integration of digital technology into all elements of business, fundamentally transforming how firms give value to their consumers (Hess et al., 2016). Similarly, in terms of goals, digitalization aims to improve operational efficiency and is thus considered a resource. At the same time, digital transformation aims to create broader organizational change as a result, including not just technology, but also culture, leadership, and new methods of working (Bharadwaj et al., 2013a; Vial, 2019).

In relation to purpose, digitalization is frequently limited to certain processes or tasks within a company and serves as an input to bigger transformation projects. Digital transformation, on the other hand, is comprehensive and organizational-wide,

influencing all aspects of the business, and is frequently the result of digitalization (Kane, 2015; Verhoef et al., 2021).

Finally, from an operational point of view, digitalization adopts a ‘Technology First’ strategy, which operates as input to the strategy. In contrast, digital transformation employs a 'Goal-First' model, meaning an evolution from simply deploying technology to achieving strategic organizational results. It is the result of the integration of technology and strategy, supported by leadership and cultural reforms (Berman, 2012; Legner et al., 2017).

Table 2 shows the opposing views between digitization and digital transformation, in the sense we have proposed, which considers digitalization as an input and digital transformation as an output or result.

Table 2. Comparative Analysis of Digitalization and Digital Transformation.

Criterion	Digitalization (Input)	Digital Transformation (Output)	References
Focus	Technology-centric	Strategy-centric	Hess et al., 2016; Matt et al., 2015
Objectives	Operational Efficiency	Organizational Change	Bharadwaj et al., 2013; Vial, 2019
Scope	Limited to specific processes or functions.	Holistic and organization-wide	Verhoef et al., 2021; Kane et al., 2015
Approach	Technology-First	Goal-First	Legner et al., 2017; Berman, 2012

1.3.5 Servitization.

Servitization represents a strategy that moves from a focus on products to a linked product-service. Vandermerwe and Rada (1988) gave one of the first definitions of servitization, defining it as the development of a firm's product capabilities through the aggregation of services. Their perspective emphasized the diversification of revenue streams and the creation of customer value. After the conception of this term, various authors started to explore its possibilities as an

important factor in the development of the company's strategic policies (Mathieu, 2001; Wise & Baumgartner, 2000) and in the creation of value.

As defined by other authors, servitization involves the process of adding value to products by adding services or by completely replacing physical things with services (Baines et al., 2007; Oliva & Kallenberg, 2003), Neely (2008) refined the definition of servitization to include not just product and service combining but also the trend toward more complex, multicomponent processes, highlighting the complexity and characteristics of current service supply.

The concept of servitization, as elucidated by Neely (2008), is also exemplified by the transformation observed in the business model of NCR Corporation, a formerly well-known manufacturer of cash registers and ATMs. NCR has transitioned from a hardware manufacturer to a provider of comprehensive multi-component solutions, including software, services, and even consulting. In accordance with Neely's refined definition, NCR's shift is a comprehensive, integrated offering rather than a simple addition of services to existing products. In addition to selling ATMs, NCR now provides a suite of services, such as transaction processing, real-time maintenance monitoring, security services, and data analytics to help financial institutions understand customer behavior and preferences.

This transformation demonstrates a multicomponent process-oriented approach to deliver value. NCR uses real-time analytics and cloud-based solutions to provide predictive maintenance to its clients, thereby decreasing outages and increasing operational efficiency.

Vargo and Lusch (2014) examined servitization from the perspective of service-dominant rationality, indicating that all products are merely means for

offering services. Their research defined servitization as a theoretical approach to value creation, moving the focus away from products towards services.

Table 3. The Evolution of the Concept of Servitization

Phase	Authors	Year	Definition	Main Contribution
Foundational	Vandermerwe & Rada	1988	Servitization is the increase in the offering of goods, services, support, self-service, and knowledge to add value to core product offerings.	Introduction of the term and Preliminary Conceptualization
Transitional	Wise & Baumgartner	1999	Servitization is a business strategy that involves changing from products to services.	Emphasis on strategic transition
	Mathieu	2001	Servitization is the strategy that adds value to products through the offer of services.	Focus on value creation through the addition of services
Maturation	Oliva & Kallenberg	2003	Servitization is the transformation of an organization's skills and procedures from selling products to selling an integrated product and service offering that provides value in consumption.	Introduce value to consumers and innovation.
	Baines et al.	2007	Servitization refers to the transformation of an organization's skills and operations so that it may better produce added value by shifting from selling products to selling product-service systems.	Highlight mutual value creation
	Neely	2008	Servitization is a transition from selling products to selling integrated solutions that comprise both product and service features.	Focus on integrated solutions
Contemporary	Parida et al.	(2014)	Servitization is defined as a holistic approach that combines digital and traditional aspects to create complex value-creation systems.	The integrated practice of digital and traditional elements
	Kohtamäki & Partanen	(2020)	Servitization is defined as the evolution of a firm's ability to offer advanced services that improve its core product offerings, with a special focus on interpersonal, periodic, and process-oriented services.	Focus on relational and process-centric services
	Rabetino et al.	(2017)	Servitization is defined as the adoption and application of data-driven technology to improve product-service systems, match them with customer demands, and create value through digital transformation.	Focus on data-driven technologies

1.4 Problem Statement.

Digitalization has been extensively researched from two points of view. As we mentioned earlier, it is first a voluntary and deliberate process. Second, it has always been viewed from a product perspective. Digital transformation has always been

focused on cost reduction measures in industrial manufacturing, resulting in the creation of new business models through servitization. To this end, we recommend two improvements to the current theory.

- Depending on whether we are looking at it from a product- or service-oriented perspective, our definition of digitalization may change.

This initial problem statement posits that the concept of digitalization might encompass different aspects depending on whether one examines products or services. Further investigation is required in relation to this particular issue. From a product-centric perspective, the digitalization process involves the incorporation of digital technology into the product with the aim of enhancing its functionalities and capabilities. Digitalization, from a service-oriented point of view, refers to the use of digital technology with the aim of enhancing or substituting conventional methods of service delivery. Telemedicine exemplifies the use of service-oriented digitization within the healthcare sector.

- Digitalization is not always a choice; sometimes, it is not a voluntary and deliberate process.

Second, digitalization may not be intended. Current academic work often portrays digitalization as a deliberate move by firms to gain a competitive edge, ignoring this complexity. However, legal regulations, business demands, or even global pandemics can push digitalization, as seen in the rapid adoption of remote working technologies during the COVID-19 pandemic. The theoretical framework might benefit from including this component to better understand digitalization's drivers. This will also examine the ethical and social implications of involuntary digitalization, including data privacy, the digital gap, and social justice.

In conclusion, the previously mentioned ideas present a significant possibility of enhancing the existing theoretical frameworks. Researchers and practitioners can achieve a complete understanding of digitalization through an examination of the importance of perspective and the deliberate or unplanned nature of its implementation.

Following these ideas, we can pose the following problem statements:

1. What are the main internal and external digitalization drivers?
2. How do external drivers, such as consultancy and coercion, influence the digitalization of the firm?
3. What role do consulting services play in the digitalization process?
4. Does forced digitalization positively influence organizational performance and business survival?
5. Taking into account that family firms are the most extended type of firm worldwide, what is the role of digitalization in family businesses compared to nonfamily businesses? And, is resilience the cornerstone to explain a family firm's best performance?

1.5 Objectives.

The rapid evolution of digitalization has brought about a wide range of advantages and drawbacks for both academics and businesses. The problem statements outlined in the section before them highlight how urgent it is to redefine the concepts of ‘digitalization’, ‘forced digitalization’, and ‘digital transformation’, as well as their interaction with performance and business survival.

Although these concepts are essential to the vocabulary of the current business environment, their misunderstanding or confusion could result in unsuccessful

strategies and wasted opportunities. In order to directly address these issue statements, these thesis' aims have been carefully mapped out.

1.5.1 Academic Objectives.

This doctoral thesis attempts to significantly advance the existing body of knowledge in the field of digitalization. The goal of this academic endeavor is to strengthen theoretical, empirical, or methodological understanding through rigorous and methodologically sound research. The academic objectives of our Ph.D. thesis are as follows.

1. Product or service-oriented. Systematic review of the literature. Historically, digitalization has been seen from a product orientation point of view. However, business newcomers have spread new ideas about a change in the concept depending on the business orientation: product or service. To rigorously define and distinguish these issues, a deep understanding of the current knowledge is needed. To this extent, systematic reviews of the literature are seen as a precise starting point.

2. Forced Digitalization: Theoretical Justification. Evaluation of existing theoretical frameworks in light of new empirical evidence, particularly in the context of forced digitalization, thus refining or challenging existing academic paradigms. To fill the identified gap in the literature regarding forced digitalization, we explore its effects on organizational strategy and behavior, as well as its relation to the broader concepts of digitalization and digital transformation of paramount and utmost importance.

3. Conceptual distinction in family firms: Explore how the concepts of digitization, digitalization, and digital transformation manifest differently in family-run firms,

responding to the problem statement regarding the unique characteristics of these entities.

1.5.2 Entrepreneurial Objectives.

Incorporating entrepreneurial objectives into our Ph.D. thesis will strengthen the research process and output by ensuring that it has practical and societal relevance. Such an approach increases the value of academic research, encourages cross-disciplinary interaction, broadens learning capabilities, and can often lead to new financial and business alternatives. Based on these precedents, we can highlight the following entrepreneurial objectives.

1. Consultancy and Digital Transformation: Examine the role that consulting services play in the successful implementation of digital transformation strategies, especially in scenarios where external expertise is sought. The relevance of consulting in the successful implementation of digital transformation strategies is of paramount importance, especially in scenarios where there exist technological limitations (Jin et al., 2020; Seifert & Nissen, 2018).

2. Forced Digitalization and Performance: To examine the effects of mandatory digitalization on organizational performance, this study aims to address the gaps indicated in the current body of literature (DiMaggio & Powell, 1983; Kreuzer, 2017). The adaptability to rapid technological change is now especially important in a society characterized by economic, technical, and health problems. In many situations, the forced digitalization caused by these problems can even be considered advantageous.

3. Survival and Digitalization: If we focus on a company's long-term strategic objectives, survival matters more than performance, which is much more

narrowly focused, meaning shorter-term. Therefore, based on our theoretical framework, research on survival and digital transformation is of utmost relevance, with a focus on the situation of family firms and the use of consulting as a tool to advance those technological transitions.(Cefis & Marsili, 2005; Vanderpol, 2002).

1.6 Thesis Structure.

This thesis is structured to address the problem statements that we have stated. We shall proceed by explaining each of them, providing solutions to the difficulties surrounding them, and attempting to bridge the gap.

In the first opening chapter, we clarify the foundational aspects and motivation of the research. We define the key conceptual terminology used in the subject of digitalization. This chapter will serve as a declaration of the problem statement and as an enumeration of the objectives.

The following second chapter will provide an overview of the theoretical foundations of organizational digitalization, including the origins of the theoretical concept of enforced digitalization.

In the third chapter, the general methodology used in the investigation is presented. In this paper, we provide a basic overview of our analytical approaches. Subsequently, in each chapter, we will provide more specific details of the methodological guidelines we used to address each problem statement.

Chapter 4 is dedicated to a comprehensive systematic review of the existing literature with the goal of determining whether the idea of digitalization is primarily product or service-oriented. At the same time, this chapter will investigate the justifications that companies, like consulting firms, give for their digitalization efforts, classifying them as either internally or externally motivated.

In Chapter Five, our focus will shift towards doing empirical research on the impact of digitalization on organizational performance. Specifically, we will examine instances where technological advancements are driven by external causes, such as technological disruptions. In addition, the present chapter will analyze the role of consulting services in mitigating these disruptions and enabling the process of digital transformation.

In Chapter 6, we examine the effect that digitalization has on the long-term survival of firms, with a particular emphasis on the role that learning orientation, absorptive capacity, and resilience play as intermediate variables in this relationship. In this chapter, we will investigate, through the utilization of NCA, which of the variables are necessary but not sufficient on their own. This method advances with the elimination of atypical data (outliers) and may be carried out within the context of various causal relationships.

The influence that technological turbulences and institutional pressures have on the business digitalization process will be examined in the next chapter, Chapter 7. As we have shown, the deployment of forced digitalization can occasionally produce better results, even if it is mandatory and forced. The role of resilience as a driver of change in this specific context deserves investigation.

Finally, in the eighth chapter of this research, we will evaluate all the findings and provide a summary of the key findings, limitations, and future study paths.

CHAPTER 2.
Theoretical Background.

2.1 A Unified Theoretical Background to Digitalization.

The digital transformation of the firm has attracted the interest of both researchers and practitioners, resulting in a vast body of research in many different heterogeneous scenes (Bharadwaj et al., 2013; Vial, 2019). Despite the substantial amount of research dedicated to this subject, there is still no consensus on its challenging attributes. This concern has led to a significant amount of theoretical work with the objective of clarifying the concept of ‘digital transformation’. Among the broad range of theoretical backgrounds, Rogers' Diffusion of Innovations (Rogers, 1995), Institutional Theory (Scott, 1995, 2008), and DiMaggio and Powell's (DiMaggio & Powell, 1983) concept of organizational isomorphism stand out as particularly relevant for understanding this intricate phenomenon of digitalization (see Figure 1).

The integration of Rogers' Diffusion of Innovations, Institutional Theory, and the notion of organizational isomorphism successfully clarifies the complex relationships that underlie the digital transformation process. The incorporation of these theoretical ideas provides the foundation of this thesis, offering a theoretical framework at many levels that accurately captures the complex process of digitalization inside organizations.

Rogers' theory offers a comprehensive examination of the intricate mechanisms by which various actors, such as leaders within organizations, workers, or specific units within a firm, engage in decision-making processes connected to the adoption of innovations (Rogers, 1995). This theoretical framework provides useful insights into the initial stages of technology adoption, wherein individuals make judgments based on their perceptions of the benefits, reliability, complexity, practicality, and observability of novel technology. Rogers' thesis has significance in understanding the initial acceptance, alteration, or refusal of various digital

technologies by distinct stakeholders within an organization, situated within the wider context of digital transformation.

The present study employs a macro-level analysis to examine the correlation between institutional theory and organizational isomorphism. Within the field of macrolevel analysis, the utilization of Institutional Theory and the concept of organizational isomorphism provides significant contributions to understanding the fundamental environmental limitations that influence decision-making processes at the microlevel (DiMaggio & Powell, 1983; Scott, 1995, 2008).

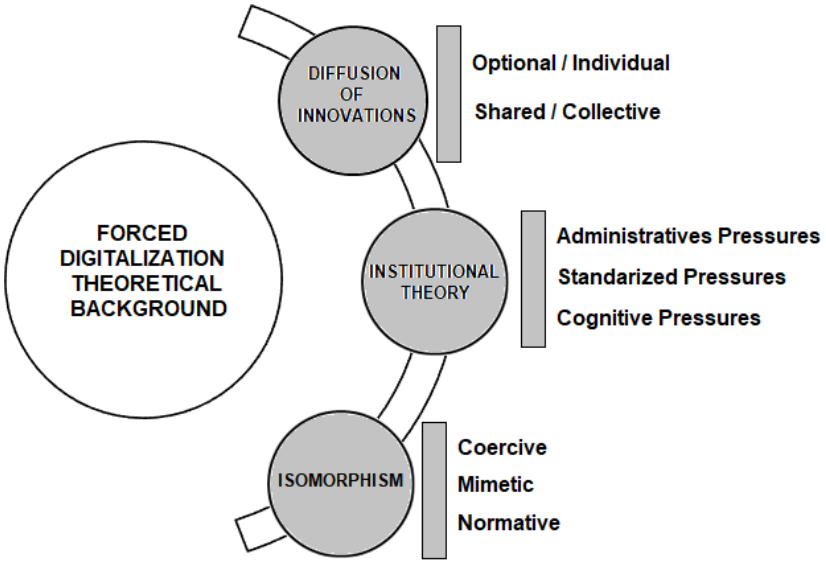


Figure 1 Theoretical Sources of Forced Digitalization.

The theory of institutions clarifies the manner in which the institutional environment, which involves regulative, normative, and cultural-cognitive elements, can exert coercive, mimetic, or normative pressures on organizations. The concept of organizational isomorphism, derived from Institutional Theory, predominantly investigates the mechanisms of coercion, mimicry, and normative pressures that

prompt organizations to adopt similar practices, such as digital technology, to gain legitimacy and secure their ongoing existence.

The primary advantage of integrating these theories is their capacity to explain the complex relationships between micro- and macro-level factors within the framework of the digital transformation process. An illustration of this may be seen in the adoption of an AI Client Service by a firm, which is primarily driven by the perceived operational advantages. This decision can be analyzed from an individual-level perspective using Rogers' theory. Nevertheless, with the growing acceptance of AI client services as a prevailing norm in the business, pushed by either legal mandates or competitive pressures, the decision to use this technology transitions from being a voluntary undertaking to a mandatory pursuit. The aforementioned transformation may be seen as a phenomenon at the macro level, which can be elucidated by employing Institutional Theory and the concept of coercive isomorphism.

In simple terms, the incorporation of Rogers' Diffusion of Innovations, Institutional Theory, and Organizational Isomorphism presents an exhaustive and multi-dimensional theoretical framework for understanding the complex dynamics of digital transformation. This comprehensive method enables a thorough analysis of the reciprocal relationship between individual decision-making and external institutional forces, as well as the internal agents inside a firm. As a result, it offers a full comprehension of the organizational digitalization process.

The following discussion explains the backdrop, current relevance, and complex linkages between theories that help us understand business digitalization. This discussion seeks to shed light on the complex forces that shape digital business change. We aim to provide an integrated framework that allows for a more nuanced

interpretation of how technological advancements, organizational structures, and market forces affect business digitalization practices through a thorough analysis.

2.2 Diffusion of Innovations Theory: Extended Foundations and Applicability to Business Digitalization.

Everett Rogers' seminal work in 1962 established the Diffusion of Innovations Theory, laying the groundwork for a systematic approach to understanding how innovations transcend social systems (Rogers, 1995). However, having its origins in rural sociology, the theory has acquired attraction across fields, from public health to information technology, due to its strong conceptual foundations(Greenhalgh et al., 2004). It essentially breaks down an innovation's spread over the spectrum of social awareness, acceptance, and utilization, providing a multidimensional view of the complex innovation environment (Rogers, 1995).

The Diffusion of Innovations Theory is essential for understanding the internal dynamics of businesses during digital transformations. The model's adoption curve classifies digitizers into five groups: innovators, early adopters, early majority, late majority, and laggards, each showing a particular risk threshold and interest in accepting technological advances (Mahajan & Muller, 1979; Peres et al., 2010).

While the Diffusion of Innovations Theory is largely concerned with internal adoption dynamics, it also considers the impact of external forces. Modern developments of this idea have underlined the importance of opinion leaders and social networks in driving adoption (Strang & Soule, 1998; Valente, 1996). This understanding is especially important when examining the role of industry leaders, as well as their competitive pressures, in the digitization push (Berger, 2011) or the role of politics.

Rogers not only highlighted the existence of optional diffusion of innovations in their early stages but also defined an important distinction about collective diffusion of innovation. This point of view argues that an optional innovation choice can become a collective decision, which is consistent with our thesis's theoretical perspective of forced digitalization. In Rogers' words:

> *'The type of innovation decision for a given idea can change or change over time. Automobile seat beats, during the early years of their use, were installed in cars as optional decisions by the owner of the car, who had to pay for the cost of installation. Then in 1966, a federal law was passed that required that seat belts be included in all new cars in the United States. An optional innovation decision became a collective decision.'* (Rogers, 1995, p. 29)

The combination of Everett Rogers' Theory of Innovations and Institutional Theory provides a full analytical framework that facilitates the understanding of technology and the dynamics of innovation adoption within organizations (Rogers, 2010). Rogers' classification of innovations into optional and shared choices offers a sophisticated understanding of the manner in which technology might be embraced either willingly or under external pressure. The significance of this viewpoint becomes more important when examined in conjunction with Institutional Theory, which provides a comprehensive understanding of how organizations are influenced by the institutional contexts in which they run their businesses (DiMaggio & Powell, 1983; Scott, 1995)).

Within the organizational situation, this combination of technology and innovations frequently starts as a discretionary choice, boosted by strategic requirements such as the pursuit of competitive advantage, enhancement of operational efficiency, or fulfillment of consumer requirements (Porter & Millar, 1985).

However, according to Rogers (1995), optional decisions have the potential to transform into coercive decisions as a result of external influences, such as legal changes or industry standards.

The previous-mentioned change is strongly associated with the theoretical framework of ‘coercive isomorphism’ within Institutional Theory, which posits that organizations submit to external forces in order to establish legitimacy and guarantee their continued existence (DiMaggio & Powell, 1983). For example, the integration of environmental sustainability practices inside organizations may initially be discretionary but can be formalized by regulatory measures or industry standards, thus evolving into a collective and coercive determination (Bansal & Roth, 2000).

The relationship is well supported by our proposed approach of mandatory digitization. At first, the integration of digital technologies, such as cloud computing or data analytics, may be discretionary and motivated by the organization's strategic goals. However, the voluntary adoption of some practices might be influenced by external factors such as a worldwide pandemic or the introduction of new legislation related to data protection, which requires a shift towards a forced decision-making process driven by institutional pressures (Mignerat & Rivard, 2016). The presence of forced adoption often results in a more rapid and uniform dissemination of innovations, as opposed to the random and slow adoption trend typically found with voluntary inventions (Rogers, 1995).

The change from self-will to forced decision-making in the use of technology also has significant consequences for social justice, policy formulation, and business strategy. The topic at hand can be analyzed through the lens of institutional theory, which conceptualizes it as a question of ‘institutional logic’. From this perspective, it is necessary to examine the rules and norms that govern innovation spread to assess its impact on social equality, ethical concerns, and strategic alignment (Thornton et al., 2012). In essence, the integration of Rogers' Diffusion of Innovations

theory with institutional theory presents a complete conceptual framework for explaining the complex issues linked to the adoption of technology and innovation within organizational contexts. The transition from individual to collective decision-making, driven by external institutional factors, underscores the intricate nature of innovation diffusion. The utilization of this analytical framework offers substantial advantages to both scholars and practitioners, as it offers valuable perspectives on the strategic, ethical, and social dimensions of technology adoption within organizational settings.

2.3 Institutional Theory. An approach to digital transformation.

In the late 1940s, Philip Selznick published his major essay, '*TVA and the Grass Roots*', which is where Institutional Theory first emerged ' (Selznick, 1953). Selznick's findings intensified a discussion of how companies adjust to their external institutional environment, giving birth to the term 'institutionalization', which describes the adoption of standards and values from outside the company into a business. Over the subsequent decades, the concept gained significance due in a major way to the work of academics like John Meyer, Brian Rowan, and Richard Scott (Meyer & Rowan, 1977; Scott, 1987). A substantial turning point in the development of the institutional theory was highlighted by Meyer and Rowan's essay '*Institutionalized Organizations: Formal Structure as Myth and Ceremony*'. They highlighted the importance of external influences in the creation of organizational structures and procedures. This statement may be regarded as an important part of the digital transformation process.

Institutional Theory's growth from its early phases to modern adaptations has set it as a core idea in organizational studies. The evolution of institutional theory brought about a three-pillar model (see Figure 1), which provides a good understanding of digitalization about how institutions exert multilayered influences

on organizations: regulative or administrative, normative or standardized, and cognitive or rational forces (Weick, 1995).

2.3.1 Administrative Pressures.

The use of digital technology is frequently required by laws, rules, and standards that place coercive pressure on organizations. Government regulations on electronic health records, for example, have a large regulatory impact on the healthcare industry and are a major driver of digitalization (Angst et al., 2010). Another example of administrative pressure pushing firms toward digitalization can be best illustrated by the General Data Protection Regulation (GDPR) within the European Union. Should information on EU citizens be available, businesses, regardless of where they are headquartered, must adhere to strict data protection regulations. There are severe consequences for an organization's failure to comply. As a result, there is a forced transition to digital solutions capable of managing and storing data in a secure, legal way.

2.3.2 Standardized Pressures.

Normative pressures are often sourced from professional networks, trade organizations, and consulting firms. These organizations provide standards and recommended procedures that encourage organizations to adopt digital tools to gain legitimacy (Ansari et al., 2010). An example of these standards can be seen in the financial industry. To ensure that all organizations that accept, handle, store, or transmit credit card information operate in a safe environment, the PCI DSS is a collection of security standards. Major credit card firms, industry consultants, and trade associations frequently support this standard, which is distributed through professional networks and trade associations (Irimia-Diéguez et al., 2023; Palos-Sanchez et al., 2018).

2.3.3 Cognitive Pressures.

Cognitive demands are the result of widespread social awareness and information. Failure to adapt can create an impression of ineptitude and obsolescence when digital technologies are ‘taken for granted’ (Tolbert & Zucker, 2012). Remote working tools, such as videoconferencing software, have become ‘taken for granted’ technologies as a result of the COVID-19 epidemic. In this situation, public perceptions about an organization's capacity to accommodate remote work suggest mainly cognitive pressures. Failure to do so could negatively impact an organization's reputation by representing it as outdated or technologically unsavvy. As a result, businesses feel pressured to adopt these digital solutions in order to maintain their credibility with both internal and external stakeholders.

2.4 Institutional Isomorphism: An Evolution of Institutional Theory for Business Organizations.

In their seminal 1983 study, Paul DiMaggio and Walter Powell developed Institutional Theory by proposing the concept of organizational isomorphism (DiMaggio & Powell, 1983). They describe three ways in which organizations structure and govern their decision-making processes, analyzing how institutions become increasingly similar over time due to various external pressures: coercive, mimetic, and normative isomorphism. This investigation provides a framework for understanding how external forces impact organizational behavior and the architecture of digital transformation.

2.4.1 Coercive Digitalization.

In the context of coercive isomorphism, legislative and institutional organizations' regulations often force businesses to adopt new technology, resulting in an externally forced kind of digital transformation. These pressures could

accelerate dramatically in the face of global difficulties, such as pandemics or economic crises, that require urgent digital transformations to maintain operational viability. For example, in response to an increase in remote work, numerous countries accelerated data privacy rules, forcing firms to install new digital security measures (Bélanger & Carter, 2008).

Another example is the Spanish Tax Office's deployment of electronic VAT management, which compels companies to report the contents of all invoices issued and received to AEAT within four calendar days. This directive forced companies to undergo a rapid digital transformation to embrace new digital solutions for tax compliance (Spanish Tax Office, 2017).

2.4.2 Mimetic Digitalization.

Mimetic isomorphism proposes that firms mimic industry leaders or more successful enterprises. Mimetic digitalization occurs when organizations, due to uncertainty, mimic the successful strategies of other firms. When faced with forced digitalization, organizations frequently seek industry leaders for best practices, especially when external influences like market instability obscure the benefits of digital transformation's benefits (Staw & Epstein, 2000; Swanson & Ramiller, 2004). As a result, industry regulators and consultants play a greater role in establishing best practices for forced digitalization processes, ensuring that transformation is not only quick and efficient but also long-term.

For example, when Amazon initially started to impact the retail business, established traditional stores experienced uncertainty and insecurity due to the change in consumer choices and technology capabilities. Many of these traditional stores followed Amazon's lead and implemented e-commerce platforms, digital payment systems, and data analytics into their operations, exhibiting mimetic digital isomorphism (Yoo et al., 2012).

2.4.3 Normative Digitalization.

Normative isomorphism, which is often a result of professionalization, adds another level to forced digitalization. The impact of industry organizations, academic and consulting institutions, and government agencies often results in a standard set of digital practices that firms are expected to follow. Professional qualifications and standards have evolved to embrace these emerging disciplines in the age of big data and artificial intelligence, consequently changing organizational responses to forced digitalization (Haenlein & Kaplan, 2019).

Consultancies such as Boston Consulting Group and Deloitte, for example, offer detailed research studies and white papers on digital transformation, analytics, and emerging technologies. These publications frequently set the tone for industry norms and expectations in the context of digital transformation (Westerman, Bonnet & McAfee, 2015).

CHAPTER 3.
Methodology and Research Methods.

Taking into account that we have to differentiate methodology from research methods, our investigation will be guided through a carefully process concerning different stages: (1) stating the research question; (2) conducting a thorough literature review; (3) hypothesizing; (4) creating the research design; (5) choosing the sampling method; (6) collecting data; (7) implementing the project; (8) analyzing the data; (9) testing the hypotheses; (10) drawing generalizations and interpreting results; and (11) presenting Each phase is essential to the study technique and will be followed with academic attention to guarantee research integrity and contribute to digital transformation studies (Kothari, 2004).

The present methodology is justified by the goal of conducting a thorough analysis of the impact of external forces on a firm's digital transformation efforts, specifically in relation to their positive impact on business performance and longevity. Once external forces to the firm come into play pushing into digitalization, constructs like consulting and resilience play an advantageous role in achieving good results in terms of performance and firm survival.

To develop our methodology in order to give answer to the research problems, we will use different reasearh methods.

To go beyond this research commitment, the first step in this investigation is to look inside at the state of the art in the field of digitalization literature, starting with a full study of the extant literature. In a few words, we will develop a review that looks at both internal and external drivers that explain how companies go digital. Initially, we will follow standard methods for thorough reviews to ensure that the research is sound. The search strategy will include a methodical search approach within multiple sources, clear criteria for what to include and what to leave out, and an acute analysis of the filtered articles. In doing so, we will give a further complete picture of the theoretical situation at hand.

After the systematic literature review is finished, the research will move on to its second phase, where Partial Least Squares Structural Equation Modeling (PLS-SEM) is used as the analytical method for the empirical validation of the rest of the research questions. PLS-SEM is especially well suited for this purpose since it can handle complicated models and many dimensions, providing a detailed understanding of the complex links between consulting positions and digitalization drivers (Schikofsky et al., 2020). These two methodological procedures will work together to create a coherent and exhaustive research design. The PLS-SEM phase provides the empirical rigor needed to validate the hypotheses presented, while the systematic review of the literature offers a solid theoretical foundation. In order to conduct this research phase we will make use of an adequate research design.

3.1 General Data Collection Method Overview.

An online survey was the main instrument employed for data collection in this study's methodological approach. The choice of this tool was carefully considered, taking into account its maximum convenience for survey respondents as well as its vast capabilities and intrinsic features of user-friendly data input and analysis (Evans & Mathur, 2018). When comparing the relative ease of data input and analysis, online surveys show themselves to be very user-friendly and effective. The participants said that they had no trouble completing the questionnaire and submitting their answers. The online platform's inherent automation enables quick tabulation and analysis.

Our primary objective was to examine the impact of consulting services on the digital transformation and operational performance of firms. As a result, the survey was conducted with care for chief executives and company owners. After the collection process, the data were organized in a structured manner, making them suitable for further analysis. The use of this approach effectively addresses the conventional administrative obstacles associated with manual input, validation, and

examination of data. Consequently, it speeds up the progression of research and guarantees the reliability of the collected data (Evans & Mathur, 2005).

The opportunity introduced by online surveys is equally crucial. The use of the digital format provides responders with the advantage of more flexibility. Participants have the option to select a time that is appropriate for them, free from any peripheral influences, to fulfill the survey (Parsons, 2007). The interactive nature of most online surveys enables respondents to browse the questionnaire at their own preferred speed, giving them the flexibility to pause if needed and resume from the exact place of interruption. This practice guarantees that the obtained replies are well-considered and reliable, in contrast to rapidly submitted entries that might potentially undermine the data quality. Moreover, as emphasized by Hogg (2003), the ease and convenience of online surveys present a clear contrast to conventional telephone surveys, which frequently interrupt respondents during inconvenient times. Instead of being an intrusive request, online surveys provide respondents the ability to interact when they think it is most convenient, ensuring a more responsive and positive attitude towards participation.

Before the extensive delivery of the survey among the surveyed population, a preparatory phase involving testing and piloting was conducted. For this preliminary test, a sample of fifty participants was selected representatively. The inclusion of this phase was deemed essential for the development and verification of the survey instrument. The objective was not just to evaluate the operation of the questionnaire (see Appendix), but to thoroughly assess its reliability and validity as a tool for collecting data.

The responsibility of conducting the survey was assigned to a specialist research organization based in Spain, which is well known for its proficiency in the implementation of computer-assisted survey systems. To enhance the integrity and

pertinence of the gathered data, an additional level of examination was implemented, drawing upon the research conducted by Couper (2000) and Weeks (1992). This study required performing additional assessments to determine the qualifications of the participants, especially assessing their degree of decision-making power within their respective institutions.

Furthermore, data analysis also considered the time dimension of survey completion. The final data set does not include survey respondents who completed it in less than nine minutes. The justification for implementing this exclusion criterion was based on the assumption that a short completion time would not allow respondents to study the questions and provide thoughtful responses.

In conclusion, the methodological strategy of employing online surveys in this study was reinforced by the combined benefits of simplicity in data input and analysis, as well as the outstanding ease it provides to respondents. This was the main reason for adopting online surveys. This combination not only improves the overall quality of the collected data but also makes the study context more suitable for the participation of respondents.

3.2 Collection of Data through Questionnaires.

We used questionnaires to gather data in our study in a structured manner. We carried out a pilot survey as a first step. This crucial stage gave us the chance to test the questionnaires and make sure the survey methods worked well and were clear.

The questionnaires included a predetermined set of specific, concrete questions and were structured. Because of this standardization, all respondents were given the same set of questions in the same order. Maintaining this consistency is essential to reducing response variability that might result from variations in how the questionnaire is delivered.

To guarantee understanding and clarity, the questions were carefully arranged in a certain order. To get the respondent's attention and gain their participation, the opening questions were straightforward and interesting. Additionally, as the respondent moved through the questionnaire, this deliberate sequencing was meant to lessen the possibility of misunderstandings.

In addition, the questionnaire's length and complexity were purposefully reduced to a minimum. The purpose of the questions' deliberate brevity and simplicity was to prevent overloading responders and lower the possibility of misinterpretation.

Lastly, we used a summated scale, namely a Likert-type scale, to evaluate attitudes on the study topic. Respondents were asked to indicate whether they agreed or disagreed with a set of items on this scale that represented good or negative feelings about the subject at issue. A number value was given to each answer, indicating the degree of the respondent's emotion. We were able to quantify each respondent's general attitude toward the topic matter by adding up these scores, which allowed us to make significant inferences from the data that was gathered.

3.3 Constructs Operationalization.

We used constructs that were operationalized from a variety of authoritative sources while we were developing the questionnaires for our thesis, which aimed to investigate the internal and external drivers of digitalization. Our in-depth comprehension of the study topic served as a guiding principle in the development of the questionnaire, allowing us to handle each of the many facets of the problem with accuracy and clarity.

For the absorptive capacity construct, we relied on the operationalization provided by Flatten et al. (2011). This allowed us to ensure that our questions were

capable of capturing the company's capacity to perceive the value of new information, absorb it, and apply it to a variety of commercial purposes. In order to evaluate the degree to which an organization is inclined toward learning and change, a set of questions titled "learning orientation questions" was devised with the assistance of Van de Walle (1997). Because of the work done by Williams et al. (2017), we were able to define the concept of resilience in a way that made it possible for us to investigate how businesses are able to survive disturbances and bounce back from them.

Following the findings of Khin and Ho (2019), we operationalized digitalization as a key construct in order to investigate the degree to which digital technologies are integrated into business processes and the degree to which this integration is successful. In order to comprehend the factors that contribute to a company's longevity in a digital economy, we resorted to the research that was conducted by Naidoo (2010) to grasp the concept of survival.

According to Liang et al. (2007), external variables like institutional pressure were taken into consideration in order to assess the influence that normative and regulatory pressures have on digitization initiatives. Zhou (2010) was used to operationalize technological turbulences so that an assessment could be made on how technical developments in the market effect digitalization plans.

Each question was crafted to fit in smoothly with a well-thought-out tabulation strategy, and they were arranged in a logical order that would make it easier for respondents to comprehend what was being asked of them and reduce the likelihood that their responses would be misinterpreted. It was very important that the questionnaire be easy to understand and uncomplicated, thus any additional complexities that may have led to misunderstandings were purposefully left out of the design process.

We were able to quantify attitudes toward each concept thanks to the insertion of a Likert-type scale, which also provided a nuanced estimate of the stance held by each respondent. Before the final version of the questionnaire was created, a pilot research was conducted to test its usefulness and validity. The questionnaire was then modified based on the responses to the pilot study.

Under the previous antecedents we used the following research methods that we will explain in the following subtitles.

3.4 Systematic Review of the Literature and Bibliometrics.

The first part of this research includes a systematic literature review (SLR) and a bibliometric analysis (BA) to investigate the digitalization orientation. Since the knowledge and theoretic production of digitalization remains fragmented, the SLR results are more relevant than ever (Snyder, 2019). Bibliometrics has also been widely used in recent years (Donthu et al., 2021; Lechuga Sancho et al., 2020), however, scarcely have both (SLR+BA) been combined to study digitalization. Using the SLR allows us to select the most relevant articles on digitalization. BA helps us to find the most widely used and extended methodology for conducting an SLR on the topic of digitalization. This combined method has been shown to be suitable and useful for this purpose (Ben-Daya et al., 2019; Linnenluecke et al., 2020; Pulsiri & Vatananan-Thesenvitz, 2018).

In recent years, a great deal of research on digitalization has been published, much of it on SLR. However, few articles in the literature provide a comprehensive analysis of cutting-edge research to show a review of SLR digitalization methodologies.

Most systematic reviews in the existing literature begin with an introduction to an individual case of digitalization, and then an SLR protocol is applied without analyzing

whether the method or process is appropriate. The use of a methodological line of research when performing a systematic analysis of the literature in the field of digitalization offers different alternatives in terms of authors. Most articles on SLR follow the methodology proposed by the concrete author, regardless of the academic field in which it was used.

There exist multiple approaches to SLR, however, there is no consensus on what kind of approach or SLR protocol should be used depending on the field of study. We are pointing to the fact that different fields of research would require different types of SLR protocols. Based on this, we consider it important to review the methods that have been used the most in the field of digital transformation. To do this, we will perform an analysis of the literature and then apply a cluster analysis to find the most important authors and SLR protocols.

According to the previous statements, we can argue that there is a clear gap in the meta-analysis of methodological methods within this academic field, despite the growing body of research on digitalization, with a significant concentration on systematic literature reviews (SLR). Existing research usually begins by describing multiple means of digitalization and then applying methodological SLR frameworks without critically evaluating their fit or relevance to the area. Furthermore, these approaches are frequently used regardless of the academic fields for which they were originally developed. This methodological disparity requires a comprehensive investigation of the foundations of research methodology in digitalization investigations. As a result, Chapter 4 seeks to answer three critical research questions: 1) What is the most widely used systematic literature review protocol in the field of digitalization? (RQ1); 2) Is the scholarly attention paid to digital transformation consistent independently with the firm's sales orientation? Oriented to sales or services? (RQ2); 3) What are the internal and external causes of digitalization? (RQ3); and 4) How has the consulting sector, which includes

disciplines such as accounting, taxation, and labor, been historically and contemporaneously affected by digital transformation? (RQ4). These issues will be properly addressed in Chapter 4.

3.5 Partial Least Squares Structural Equation Models.

To investigate and assess the problems of this, we employed partial least squares structural equation modeling (PLS-SEM). According to the literature, this methodology has gained popularity on the topic of digitalization (Bouwman et al., 2018). The complexity of the structural model, the need to include forged constructs from the perspective of measurement model specification, and our desire to identify 'key driver constructs' all contributed to our decision to use PLS-SEM.

As a result, we performed these investigations using the SmartPLS 4 software (Ringle et al., 2022). Analysis was carried out using a two-stage PLS-SEM (Cepeda-Carrion et al., 2019; Chin, 1998). A non-iterative implementation of the ordinary least squares method was used to calculate the loadings of the artificial variables and the relationships in the structural model after the reliability and validity of the measurement model had been verified. The significance of the structural model's relationships was then assessed using a bootstrapping technique (Chin, 1998). These issues will be addressed in Chapter 5.

3.5.1 Finite-Mixture Partial Least Squares (FIMIX-PLS).

The Finite Mixture Partial Least Squares (FIMIX-PLS) is a complex method of analysis created to address the issue of unobserved heterogeneity in structural models. The initial introduction of this approach may be attributed to Hahn et al. in 2002, and further advances have been made by various scholars (Becker et al., 2013; Sarstedt, Becker, et al., 2011). The mentioned methodology is used as a latent

class segmentation method. The main aim is to identify and categorize latent segments within a provided data set that could not be easily identified.

The inclusion of Finite Mixture Partial Least Squares (FIMIX-PLS) in our research improves the analytical accuracy of Partial Least Squares Structural Equation Modeling (PLS-SEM) when evaluating the influence of consulting services on the forced digitalization of organizations and its impact on organizational performance. It is very helpful to identify latent segments or clusters within a heterogeneous sample, thus allowing the assessment of unobservable heterogeneity.

Due to its great ability to identify unobserved heterogeneity, it has been considered an outstanding advance in methodology due to its ability to divide the sample into different groups by analyzing the patterns of response to observable variables (Palos-Sanchez et al., 2018; Sarstedt et al., 2020). We can state that the primary goal of FIMIX-PLS is to capture and integrate heterogeneity within the data set. This objective is accomplished by estimating the probability of segment affiliations for each observation in the dataset. The path values for each of these parts were also found at the same time. This twofold estimate method lets us get a better sense of how the data are connected, while also taking into account the chance of unseen variation. Even so, heterogeneity is often a problem in observational studies. In some rare cases, heterogeneity may not be found and remain unknown at the start, even though it is possible to identify and control for certain types of heterogeneity, like age or gender. The presence of unobserved heterogeneity creates considerable problems, particularly in estimating partial least squares (PLS) path models successfully.

The potential implications of this finding may prompt questions about the accuracy of the results (Becker et al., 2013). To solve this problem, it is worthwhile

to employ latent class cluster techniques, such as FIMIX-PLS, as supplementary methods for response-based segmentation.

Then, the utilization of FIMIX-PLS is particularly relevant in the examination of forced digitalization, by which organizations can demonstrate diverse reactions to both external and internal influences. For example, the influence of regulatory requirements or the participation of consulting services may have varying effects on the digital transformation process within distinct organizational types or industrial sectors. FIMIX-PLS facilitates a comprehensive examination of these variations by discerning latent clusters of companies that exhibit comparable attributes and behavioral tendencies.

The approach is utilized to systematically and comprehensively examine a collection of critical research questions. Can coercive measures, such as government regulations or industry standards, act as catalysts to drive digital transformation within organizations? What is the precise function of consulting companies, which are identified as suppliers of knowledge-intensive services, in influencing or accelerating the trajectory of digitalization? Do consulting services and institutional forces work together to facilitate digital transformation and, if so, do they have a quantifiable beneficial effect on corporate performance?

Chapter 5 will thoroughly analyze these crucial inquiries. The study seeks to use FIMIX-PLS to comprehensively examine the intricate connections of forced digitalization, the participation of consulting services, and their combined influence on organizational performance. The proposed approach aims to facilitate the separation and analysis of the various aspects involved, leading to the development of a more comprehensive theoretical framework. Additionally, it seeks to provide practical insights that may be used in the execution of digital transformation initiatives, particularly in situations where external coercion is present.

3.5.2 Mediation Analysis and Indirect Effects.

The use of Partial Least Squares Structural Equation Modeling (PLS-SEM) for mediation research is considered a robust methodology for understanding complex relationships between variables (Nitzl et al., 2016). The central concept of mediation analysis is the process of breaking down the total effect of an independent variable on a dependent variable into distinct components, namely direct effects and indirect effects (Zhao et al., 2010). The direct effect refers to the obvious impact that an independent variable has on a dependent variable. This relationship is sometimes represented by a path coefficient, written as 'p' (see Figure 2). In contrast, the indirect effect refers to the influence transmitted through a third variable, generally called the mediator. Mathematically, the aforementioned relationship can be expressed as the multiplication of two variables, namely 'p_1' and 'p_3' (Cepeda-Carrion et al., 2019; Nitzl et al., 2016). In Chapter 5, we will analyze the effect of external forces on digitalization and then the effect of this on performance. In this respect, consulting plays an important role as a mediator between external effects and digitalization. Mediation happens when the consulting construct intervenes between the external forces construct and digitalization.

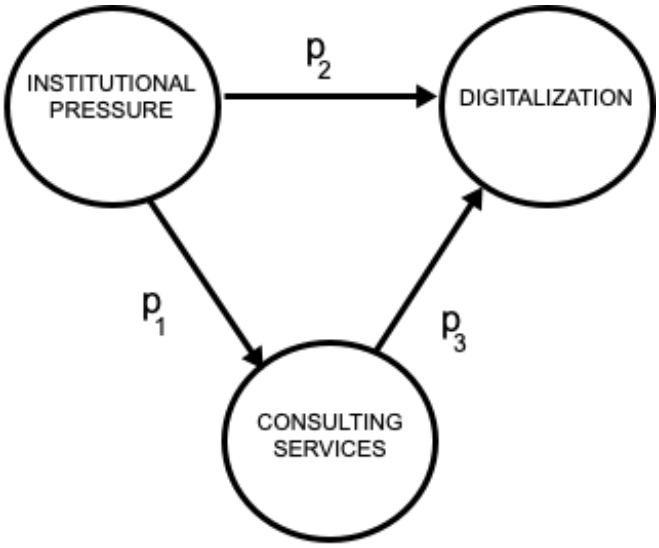


Figure 2 The Mediation of Consulting Services between IP and DI.

As we can see in Figure 2, the coefficient p_1 reflects the impact of the independent variable (institutional pressure) on the mediator (consultancy), while the coefficient p3 shows the impact of the mediator (consultancy) on the dependent variable (digitalization). The cumulative impact is determined by the sum of p_2 and the product of p_1 and p_3. It is important to underline in this respect that the presence of the mediator could justify the relationship between institutional pressures and digitalization in terms of significance. The relationship between institutional pressure and digitalization could not be significant; however, it could be significant in the presence of the indirect effect.

The fundamental aspect of mediation analysis is the evaluation of the mediating effect itself, which refers to the role of consulting in the direct relationship between institutional pressure and digitalization. For this reason, it is also important to assess the statistical significance of the indirect effect, often using bootstrapping techniques. Mediation is said to occur when the indirect effect is shown to be statistically significant, whereas the direct effect could be either nonsignificant or significant.

There are two possible scenarios: full mediation, in which the direct effect is not statistically significant, and partial mediation, in which the direct effect remains statistically significant but is diminished in the presence of the mediator (Zhao et al., 2010). Interpreting these findings requires a complete understanding of the theoretical implications. The classification of mediation, whether complete or partial, can offer useful information on the fundamental mechanisms that regulate interactions between the variables under investigation. In conclusion, it is important to ensure that the results are meticulously documented in accordance with established academic conventions. This involves providing appropriate references for the predicted path coefficients, t-values, and degrees of significance. In simple terms, the application of mediation analysis in partial least squares structural

equation modeling (PLS-SEM) provides a methodologically robust framework for thoroughly investigating complex relationships between variables. Through a systematic approach that involves following the processes from model design through interpretation, researchers are able to get meaningful insights that include both statistical validity and theoretical robustness.

3.5.3 Gaussian Copula.

In Chapter 6 we will study the relationship between learning orientation, absorptive capacity, and resilience in digitalization and this one over survival. The Gaussian Copula approach is a specialized methodology established for the purpose of addressing the issue of endogeneity in Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach enables the identification and correction of endogeneity through these methodologies (Becker et al., 2022; Park & Gupta, 2012). The Gaussian Copula stands out among instrumental variable-free approaches in its ability to handle endogeneity (Hult et al., 2018; Papies et al., 2017).

In our structural model, the independent variables, learning orientation, absorptive capacity, and resilience, each have a hypothesized effect on digitalization, which in turn affects survival. Given the complexity of these relationships, endogeneity is a key concern. It may arise, for example, if an unobserved variable, such as organizational culture, affects both digitalization and survival, thus introducing bias into the estimated relationships.

Let us say preliminary analyses indicate a potential endogeneity problem with digitalization affecting survival. The Gaussian copula approach can be implemented to address this problem in a multitasking way.

1) Non-Normality Check: First, we would perform a Cramer-von-Mises nonnormality test on digitalization to ensure it does not follow a normal

distribution, a prerequisite for applying the Gaussian copula method (Park & Gupta, 2012).

2) Adding a copula term in SmartPLS: In SmartPLS, we would add a "copula term" to the relationship between digitalization and survival. This term accounts for the unobserved factors that may be causing endogeneity.

3) Estimation and Bootstrapping: After specifying this in the model, we would run the PLS-SEM algorithm to estimate the path coefficients, including the copula term. Then a bootstrapping was performed to assess the significance of this copula term (Hult et al., 2018).

4) Significance Testing: If the copula term is statistically significant, it suggests that endogeneity is indeed a problem in the relationship between digitalization and survival. The copula term helps correct for this, providing more unbiased estimates.

As noted by Hult et al. (2018), endogeneity can seriously bias estimates. The Gaussian copula method allows for the correction of this bias, thereby making the results more valid. Furthermore, traditional methods often assume linear relationships, but in complex models like ours, the relationships could very well be nonlinear. Gaussian copulas can capture such complexities (Becker et al., 2022). Another concern is 'Tail Dependency'. In the real world, extreme changes in one variable may have nonproportional effects on another. Gaussian copulas can account for such ‘tail dependencies’, making them suitable for risk assessment in organizational contexts (Embrechts et al., 2002). Finally, if more than one of our independent variables is suspected to be endogenous, the Gaussian copula approach can handle this by allowing the inclusion of multiple copula terms, one for each endogenous regressor (Hult et al., 2018).

By incorporating Gaussian copulas into our PLS-SEM model, we can thus achieve a more robust, accurate, and reliable understanding of how learning orientation, absorptive capacity, and resilience influence digitalization and, subsequently, survival.

3.5.4 Necessary Condition Analysis (NCA).

Necessary Condition Analysis (NCA) is a novel analytical approach to identify conditions that are necessary, but not necessarily sufficient, for an event to occur. Unlike standard regression-based approaches, which focus on the average effects of variables, NCA seeks to find 'bottlenecks' or 'critical factors' that must be present for a particular outcome to occur. In other words, regardless of the state of other variables, if the condition is not satisfied, the expected result will not be achieved.

Jan Dul (2016; 2020) defined the NCA technique in 2016, and it has since been further expanded and used in numerous circumstances. This method is particularly valuable in management and organizational research, where finding the necessary conditions can have substantial practical implications for decision-making and strategy design (Richter et al., 2020).

Necessary Condition Analysis (NCA) offers a complementary methodological approach to conventional methodologies such as Partial Least Squares Structural Equation Modeling (PLS-SEM) with the employing of Gaussian Copulas. While Gaussian copulas are used to handle complications like endogeneity and nonlinear relationships, NCA seeks to identify bottlenecks, and critical factors that must be present for the result to be achieved.

Within the context of the structural model discussed in Chapter 6 which looks at the connections between learning orientation, absorptive capacity, resilience, digitalization, and survival, NCA may offer novel and useful perspectives. These

variables have complex connections and endogeneity issues that can be efficiently addressed by using Gaussian copulas. However, NCA might be of great help in determining what kinds of basic constructs are required to guarantee a company's continued existence.

NCA results may suggest, for instance, that organizations require a specific degree of digitization to thrive in the long run. This means that a company can only survive by reaching this minimum level of digitalization, regardless of how much it invests in learning orientation, absorptive capacity, or resilience. If such a phenomenon were to be discovered, it would have far-reaching implications for management strategies, leading to a greater focus on prioritizing efforts to acquire the necessary degree of digitalization.

Significant progress can be made in answering the research questions defined in Chapter 6 using NCA. These questions concern the impact of digitalization on the longevity of businesses, the roles played by learning orientation, absorptive capacity, and resilience, and the question of whether or not digitalization acts as a mediator between the effects of these constructs and business survival. For instance, it is proposed that absorptive capacity has a positive influence on digitalization while using PLS-SEM with Gaussian copulas; nevertheless, this may not be considered critical. However, NCA research may show that a certain threshold of absorptive capacity is necessary for any digitalization process.

In conclusion, the analytical framework described in Chapter 6 has the potential to enhance the comprehension of complicated interactions between variables if the necessary condition analysis (NCA) is incorporated into the framework. The understanding gained from the Gaussian copula method in PLS-SEM can be enhanced by including the necessary criteria for firm survival in the study conducted by NCA. This synthesis yields a potent and all-encompassing

methodological toolset to answer the relevant research questions. Utilizing many approaches improves the research's scholarly importance, yielding useful insights for decision-making and the development of organizational initiatives.

3.5.5 Measurement Invariance of Composite Models (MICOM).

The method known as Measurement Invariance of Composite Models (MICOM) is an essential requirement that must be fulfilled before performing multigroup analysis in Partial Least Squares Structural Equation Modeling (PLS-SEM). The approach developed by Henseler, Ringle, and Sarstedt (2015) aims to evaluate the statistical equivalence of measurement models across multiple groups.

This assessment helps to ensure that any observed variations between groups are not due to measurement variability. The MICOM method has three main parts, such as (1) establishing configurational invariance, (2) ensuring compositional invariance, and (3) verifying the equality of composite means and variances.

1. Configural Invariance: The initial step seeks to establish that the measurement model's basic structure is identical across the groups being compared. Essentially, the same indicators should load onto the same latent variables (e.g., resilience, technological turbulence, etc.) in both family and nonfamily firms. This is confirmed by running separate PLS-SEM models for each group and ensuring that the indicators align consistently with their respective constructs.

   This is the first and simplest step. It verifies that our model's fundamental structure is identical for both family and nonfamily businesses. Essentially, it ensures that we measure the same variables, such as resilience and technological turbulence, for both categories. If the previous condition is not

met, then the differences might perhaps be attributed to this lack of consistency.

As an example, we can think about the measurement of institutional pressure using three distinct components, namely government regulations, social expectations, and competitive norms. The first stage is to ensure that these three indicators are used to measure institutional pressure in both family-owned and non-family businesses. In essence, we make sure that when you refer to ‘institutional pressure’, you are referring to the same set of elements for both groups.

2. Compositional Invariance: In this stage, the concept of compositional invariance is used to examine whether the indicators exhibit a consistent internal structure in different groups. The primary objective of this assessment is to determine whether the indicators have equivalent significance (as shown by the outer loadings) within their respective constructs in various groups. According to Henseler et al. (2015), a permutation-based technique is suggested as a means to evaluate compositional invariance.

   It refers to the process of verifying that the fundamental structure remains consistent. This stage involves assessing whether each component or indicator of a construct, such as resilience, contributes proportionately to the total load of that variable in both family and non-family firms. In easier-to-understand language, it guarantees that the concept of 'Resilience' is consistently defined in relation to its components across both categories of organizations. For example, consider as an example the resilience variable, which may include indicators such as adaptability, toughness, and rapid recovery. This stage investigates whether Adaptability and Resilience are similarly characterized in family and non-family businesses. In order to ensure

an equitable comparison, if adaptability accounts for 40% of the resilience score in family businesses, it is reasonable to assume that a similar percentage should be assigned to adaptability in nonfamily businesses.

3. Equality of composite means and variances The final part of the analysis examines the equality of composite means and variances between family and nonfamily businesses. This involves contrasting the average scores and the variance of the scores (variances) for each variable. However, it is important to validate the initial two phases to establish a fair comparison, thus rendering this comparison meaningful.

   If it is observed that the mean score for Digitalization is 7 out of 10 for family-owned businesses and 8 for nonfamily firms, this concluding step enables the assertion that nonfamily firms exhibit a higher degree of digitization compared to family firms. However, it is important to note that this assertion has validity just if the initial two stages ascertain that the elements being compared in both groups pertain to Digitalization.

By adhering to the MICOM approach, one may ensure that while performing a comparative analysis of family and non-family firms in relation to institutional pressure, technological turbulence, resilience, and digitalization, a fair and equitable comparison is made. This level of scientific rigor lets you be sure that any differences you find are caused by real differences between family and nonfamily firms and not by the way you are measuring these variables.

3.5.6 Multigroup Analysis (MGA).

Multigroup Analysis (MGA) is a statistical methodology that is used to assess the invariance or reliability of a model between different subgroups within a sample. In the sphere of digital transformation research, particularly when examining the

behavior of family and non-family firms in the face of external forces driving digitalization, MGA becomes an invaluable tool. This technique is especially pertinent when using Partial Least Squares Structural Equation Modeling (PLS-SEM) to explore how the role of resilience intermediates the relationship between external forces and digitalization across these two types of firms (Sarstedt, Henseler, et al., 2011).

In the specific context of family and non-family firms, MGA within PLS-SEM will allow us to examine whether the correlations between constructs such as external forces, digitalization, and resilience are consistent across these distinct organizational forms. By comparing path coefficients, loadings, and other model parameters between family and non-family firms, we can assess whether the model holds uniformly or if there are firm-specific discrepancies that warrant attention.

The application of MGA is crucial to determine the generalizability of a model that aims to explain how firms respond to external pressures for digitalization. If the model demonstrates invariance across both family and non-family firms, it strengthens the argument for the general applicability of the constructs and their interrelationships (Blair, 2006; Henseler et al., 2016). On the other hand, if discrepancies are observed, it may indicate the presence of moderating variables, such as organizational culture or governance structures, that influence these relationships differently in family and non-family firms.

Furthermore, MGA can identify how the resilience construct serves as an intermediary in the relationship between external forces and digitalization. If resilience plays a different mediating role in family firms compared to nonfamily firms, this would be a significant finding that could inform both theory and practice (De Haan et al., 2002; He et al., 2023).

Using Rogers' Diffusion of Innovations and Institutional Theory as lenses through which to understand the digital transition, MGA could throw subtle light on these concepts. In contrast to non-family enterprises, family firms may show distinct patterns of resilience and responses to institutional demands for digitization because of their long-term orientation and relational governance (Gómez-Mejía et al., 2007; Hauck et al., 2016). With the help of MGA, theoretical hypotheses on how different types of businesses handle the challenges of digital transformation may be tested in the real world.

In conclusion, PLS-SEM's multigroup analysis provides a robust methodological technique for contrasting the practices of family and non-family businesses in the face of externally driven digitalization. MGA adds to the theoretical and empirical depth of digital transformation research by investigating the function of resilience as a mediating concept in the responses of various types of firms to external forces.

CHAPTER 4.
The Internal And External Drivers of Digitalization.

4.1 Is Digitalization a Product or a Service-Oriented Concept? The Case of Consulting as a Service-Oriented Digitalization Process.

Due to the increasing importance of the service sector within the overall economy, it is no longer possible to use the technological development patterns observed in the industrial sector as a reliable basis for understanding the influence that digitalization has had on the service sector. We need to re-conceptualize innovative processes, digitalization, or digital transformation to embrace the special circumstances of each economic activity. (Drejer, 2004; I. Miles, 2009). If originally digitalization was closely related to manufacturing, nowadays we are no longer considering it as a closed concept. It is creating a challenging transition in the concept of digitalization where we are moving to new paradigms depending on the economic activity of the firm and its sales orientation (Kohtamäki et al., 2021). Therefore, we need to reconceptualize digitalization or digital transformation, to embrace the special circumstances of each economic activity. The literature has already pointed out the difference between digitalization processes in both sectors, identifying some determinants, features, and patterns that make it different from manufacturing (Evangelista, 2000; Guerrieri & Meliciani, 2005; Miozzo & Soete, 2001). Undeniably, the literature on innovation and digitalization in the service industry is moving away from that of the manufacturing industry and is developing as a new field of investigation. In these circumstances, it is of special importance to give a new conceptual approach to the existing framework.

The results of this study contribute to the body of knowledge and provide valuable information on digitalization research. First, bibliometric methodology has gained importance in recent years (Donthu et al., 2021). Systematic Literature Review (SLR) combined with bibliometric analysis (BA) has been used little in this area, although it has gained significance in recent years. Furthermore, running a cluster analysis using VOSviewer software (Ponsignon et al., 2019) has also been relevant.

Second, the concept of digitalization has been re-examined and revisited. To date, most studies on digitalization have approached the concept from a single perspective. This study contributes to the body of knowledge that focuses on digitalization from a double perspective, depending on business orientation (good sales and service provision). According to Avison & Malaurent (2014, p. 327): 'New arguments, facts, patterns or relationships could be considered sufficient contributions without theory building beyond this to be considered a good contribution to the body of knowledge. Moving forward from this point, we focus our attention on the consulting industry as a driver and facilitator of digital transformation, but also as a digitalization carrier in its sector. Consulting companies usually help other companies develop their digital transformation but also try to innovate to create new opportunities and maintain a competitive advantage in a highly competitive sector. This paper explores the theoretical basis that has driven these companies to boost digital transformation internally and externally: an internal source, characterized by economic and organizational factors, and an external source, aimed at clients and institutional points of view.

4.2 Is Digitalization the Same Concept No Matter the Firm Activity?

In this section, we will extend our initial theoretical approach, problem statement, and topic justification shown in Section 1.4 to show that our research addresses a literature gap in a timely and innovative way.

The digitalization of companies has traditionally been approached using Resource-Based Theory (RBT) as a way of explaining how companies try to maintain and improve their competitive advantage through digitalization (Barney, 1991; Wernerfelt, 1984). Companies investing in digital equipment have a competitive advantage by increasing their value, improving performance, and boosting productivity (Bharadwaj et al., 2013). However, digital transformation and

digitalization are not always related to machine-based investments (Balsmeier & Woerter, 2019). There is an intangible set of resources that affect the way these assets are used and managed. Therefore, the same level of digital investment produces different results (Mikalef & Pateli, 2017). Following this idea, we can introduce a new theoretical approach based on the Dynamic Capabilities Theory (Teece & Pisano, 1994), as an extension of the RBT, to answer the question of different performance for similar technological investments. This approach proposed a substantial variation between businesses in terms of the returns on technological investment (Aral & Weill, 2007). This point supports the idea that investment in digital and technological transformation is a necessary condition, but not a sufficient cause by itself, to generate and maintain a competitive advantage and that there are many other crucial conditions such as using intangibles to create and maintain a successful strategic opportunity. These points can be used as a basis for the evolution of the theoretical model that has usually been used up to now.

4.2.1 Development of a Specific Problem Statement about Consultation.

In the words of Castellaci (2008, p. 982): 'Despite recent advances in the study of service innovation, this literature still seems fragmented and not clearly related to the paradigm–regime–trajectory model earlier developed to study innovation in manufacturing industries.' The consulting sector has also been undervalued as a driver of digital transformation, not only for other agents in the economy but also for themselves. As pointed out by Lemus-Aguilar et al. (2015, p. 1): 'Innovation inside consulting firms has missed specific attention in academic research'.

Consulting firms are usually considered part of Knowledge-Intensive Business Services (KIBS), Professional Service Firms (PSF), or Project-Based Firms (PbF) (Marino-Romero et al., 2022). However, consultancies possess characteristics that might affect generalizations made in studies targeting all categories stated above.

Following these approaches, the need to conduct more research on this topic appears clear.

4.2.2 Why digitalization is a different Concept depending on the Firm's Business Activity?

Digitalization and digital transformation are topics that have been extensively studied in the context of firms, however, as shown in Figure 3, it was not until recently (2014–2015) that researchers focused their attention on using systematic literature reviews (SLR) for digitalization.

Figure 3 is the result of exploratory research using the Scopus database as a source for the 2001-2020 period and applying a Boolean search string, which yielded a total of 1522 articles. Of these, 1239 were published in the 2015-2020 period (Annual Growth Rate: 24.48%), illustrating the growing importance of this methodology in the research topic.

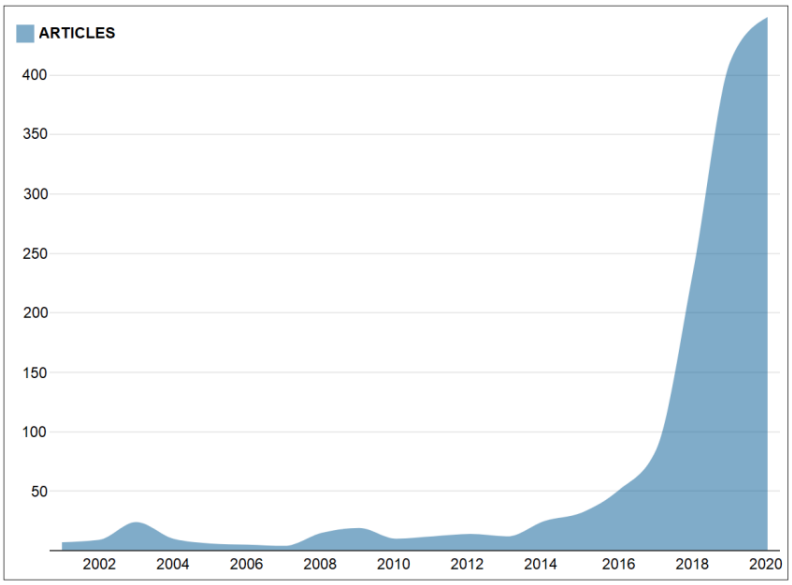


Figure 3 SLR on Digital Transformation: Annual Scientific Production.

Evenly, as shown in Figure 3, the impact of digitalization has gained importance in recent years according to different indexes. However, there is still a lack of conceptualization in the definition of digitalization. Most current research uses a single definition of digitalization for all types of business. We consider this point to represent an unanswered question. To address this gap in the literature, which has not been met by other studies or research in this field, we will present our research questions in the following section.

4.2.3 Research Questions on Digitalization Orientation.

This research presents a new point of digital transformation in business orientation. In doing so, a series of research questions will be analyzed. The construction of research questions is one of the most important phases of an investigation. Most research studies suggest that gap spotting is a reliable way to find relevant research questions (Sandberg & Alvesson, 2011). Such 'gap spotting' points surpass the overarching concepts in the literature; therefore, they challenge existing digitalization theories (Locke & Golden-Biddle, 1997). This study emphasizes connections already present in the literature in the field of digitalization, where digitalization processes have not been studied singularly based on the activity of the company, but have always been approached in a global way (Alvesson & Sandberg, 2011).

When conducting an SLR, researchers face different methodologies from different authors with different search protocols. Depending on features such as the search protocol, the field of research,..., authors tend to use one or another protocol with a careless explanation about this choice. In this sense, we find that not all SLRs systematically use the same method or protocol and that most of the time the researcher uses a regular process but with a different reference author. Therefore, our

purpose is to determine which is the most predominant reference author or used protocol in SLR on digitization. So, our first research question states:

> 1) What is the most widely used systematic literature review protocol in the field of digitization? (RQ1).

As far as business digitalization is concerned, the digital transformation has focused on the manufacturing industry, which is oriented toward the production of goods. With the servitization of business, digitalization has gained weight in the service industry. Rarely has it been studied from different conceptual angles. This second research question refers to whether digital transformation or digitalization should be studied differently according to business orientation. We will deal with a new outlook that suggests that it could be considered differently depending on the business orientation of the company (products/services). Taking this into account, we decided to conduct a new review of the literature with the aim of answering our second research question.

> 2) Has digital transformation been studied with the same prominence for companies with different activities? (RQ2)

Finally, a last research question will be answered. Consultancy Sector Digitalization has been facilitated and boosted by internal and external industry drivers that have resulted in a change in the digitalization paradigm, so we will analyze the factors that have promoted their own digitalization process and third-party digital transformation.

> 3) How has digital transformation affected, and is presently transforming, the consulting sector (accounting, taxation, labor)? (RQ3).

4.3 How to Approach the Answer to our Questions.

This research includes a systematic literature review (SLR) and a bibliometric analysis (BA) to investigate the digitalization orientation. Since knowledge production on digitalization remains fragmented, the SLR results are more relevant than ever (Snyder, 2019). Bibliometrics has also been widely used in recent years (Donthu et al., 2021), sometimes in combination with SLR techniques, but scarcely have both (SLR+BA) been combined in digitalization. Using SLR allows us to select the most relevant articles on digitalization, while BA helps us find the most widely used and extended methodology (RQ1). This combined method has been shown to be suitable and useful for this purpose (Ben-Daya et al., 2019; Linnenluecke et al., 2020; Pulsiri & Vatananan-Thesenvitz, 2018).

In recent years, a great deal of research on digitalization has been published, much of it on SLR. However, few articles in the literature provide a comprehensive analysis of cutting-edge research to show a review of SLR digitalization methodologies. In numerous scientific investigations, researchers frequently utilize Systematic Literature Review (SLR) but frequently neglect to provide enough justification or explanation for the selection of the specific protocol of the method. The absence of sufficient explanation is a chronic issue observed in multiple researched fields that employ Systematic Literature Review (SLR) as a technique. Usually, the authors employ the use of a specific protocol of Systematic Literature Review (SLR) without providing a clear justification for its choice, thereby creating a lack of methodological openness in the research.

Based on this, we consider it important to review the methods that have been used the most in the field of digital transformation (RQ1). To do this, we will perform an analysis of the literature and later we will apply cluster analysis to find the most important authors.

4.4 Results and Discussion about Digitalization Orientation.

4.4.1 Using an SLR as a First Step to Answer the Dilemma.

The first research question in this study requires an analysis of the different existing methodologies to discover which of them have been used the most in digitalization themes and have been more widely accepted by researchers, as well as to decide and justify which of them will be used to analyze our hypotheses and research questions. This approach could be called systematic literature review screening (SLRS) and was performed using the Dimensions database, a novel and used scientific research tool that has revolutionized metadata analysis beyond bibliometrics (Hook et al., 2018). It is considered a democratization of scholarly data and an alternative to WoS and Scopus (Orduña-Malea & Delgado-López-Cózar, 2018; Thelwall, 2018).

A Boolean search string was used for digital transformation, digitalization, digitalisation, and ‘systematic literature review’: (‘systematic literature review’ AND Digitalization OR digitalisation OR ‘digital transformation’). All types of publications were initially included, and there was no time limit. The classification was given by the Dimensions database. The results were then stratified by activities or sectors to organize the results into a hierarchy (Butler, 2010; Rousseau & Leuven, 2018). Dimensions classifies and assigns a code to the subject field of research, allowing for a more precise examination and filtering of the results. In this case, we selected the codes ‘15 Commerce, Management, Tourism and Services' and ‘08 Information and Computing Sciences, and 42 matches were found. All publications were analyzed and nine of them were discarded because they were not directly related to the research topic, were not in English, or were not accessible. We obtained a final sample of 33 references.

Subsequently, the VOSviewer software was used to analyze the data obtained. This tool uses a clustering technique with scientometric research and has also been used for the study of digitalization (Strozzi et al., 2017; van Eck & Waltman, 2010; Waltman et al., 2010; Zhang & Banerji, 2017). The resulting documents from the previous search were then grouped by author and analyzed. A map of all the data extracted from Dimension was then created. The purpose was not only to analyze all the references obtained but also to analyze the bibliography used by those authors. The software examined the link and strength between all documents with a bibliographic analysis between publications. The items were then clustered so as not to overlap and items (references) were not allowed to belong to different groups.

The results were clustered into three main groups, where Tranfield (2003) was the most significant group. The results in Figure 4 show that Tranfield's SLR methodology is used or referenced the most in SLR on digitalization. This is an extraordinary outcome since this is not found as a direct reference from our initial sample of 33 articles, but it is used the most by all referred authors. Tranfield's First Cluster (2003) is referred to the most by all researchers when doing SLR in the field of digitalization. It stresses the need to do a preliminary study when starting an SLR; it requires an initial expert panel that includes theory and practitioners to assess the relevance and size of the literature and to delimit the subject area or topic.

Almost all SLR methodologies connected in the cluster follow this path. Authors such as Cooper et al. (1988) and Hofmann et al. (2019) also stand out in this cluster, although not as predominantly as Tranfield does. Levi´s second cluster (Bharadwaj et al., 2013) stands out for its importance and impact in the field of digital transformation. It is a methodological view directly related to the field of information systems and has also been widely used in the field of digitalization by analogy. In his presentation, Levy highlights the importance of identifying the target audience to

select the best framework. Third-cluster connections with the first and second clusters give us weak relations with the former and the latter and have not been as relevant as the first and second ones.

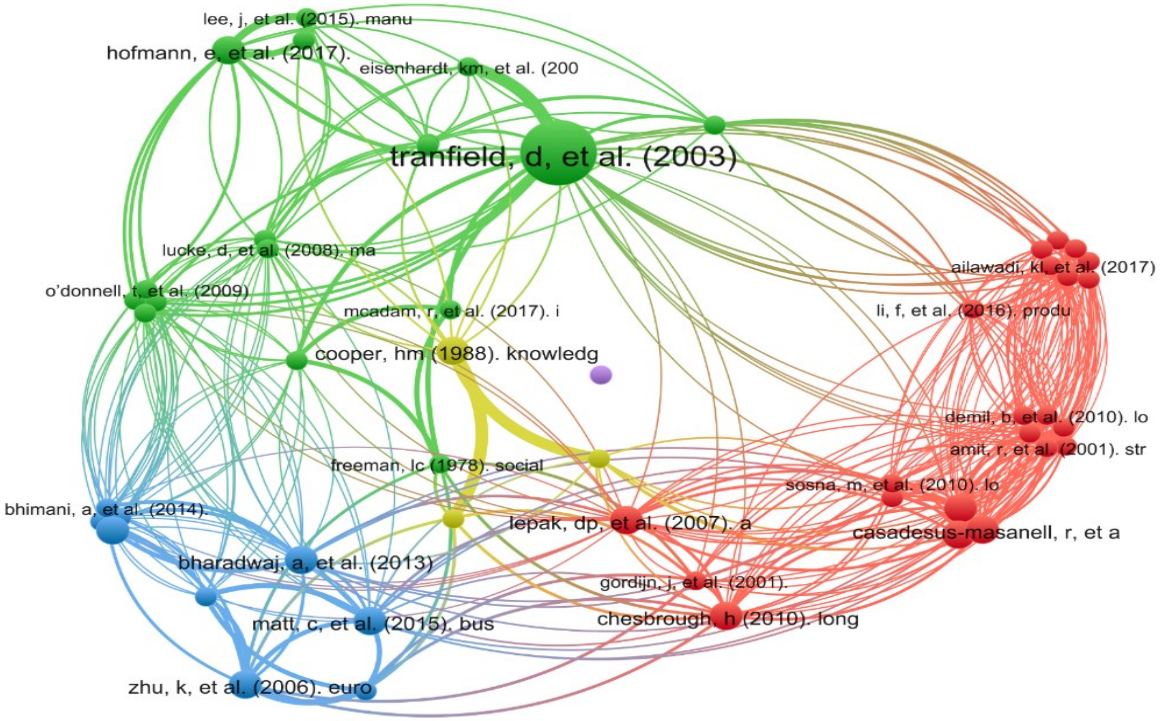


Figure 4 Clustering SLR Methodologies by Author.

To find the consistency of the results with this tool, all references were analyzed individually. Each document extracted from the Dimensions database was evaluated and classified considering the subject, year of publication, type of publication, period covered, time horizon studied, databases used, articles analyzed, references and author, and methodology used to perform systematic literature review.

In Table 4, we show a list of systematic reviews of the literature carried out in the field of digitalization. The columns show the different researchers classified chronologically according to the date of publication of the article ('pub. year') and the

subject of the article used to perform the SLR. Within these thematic areas, health stands out for its importance in terms of the number of times mentioned. Health and finance (blockchain, bitcoin, investments) have gained importance because of the actual increase in this kind of service. The column shows the time horizon used to analyze and review publications on digitalization, observing that the period analyzed predominantly exceeds 10 years, on average. As can be seen in the column 'database', the Scopus and Web of Sciences databases are used the most, although publication databases such as IEEE and AISEL, with great transcendence in terms of technology, are notably beginning to gain ground compared to the other. Equally interesting is the introduction of interviews and reports as complementary tools for conducting SLRs. In all the references analyzed, we note the scarce use of mixed analysis tools that complement the SLR with the BA (as has been done in this article).

The literature analyzed (see Table 4) is based on an initial sample of articles that on average exceeds 500 references, reducing this amount to a considerably chosen final sample of two or three tens. This is because the increase in publications in the field of digitization began in 2018, as observed in Figure 4. If we take into account that only part of this increase corresponds to SLR, we can understand that there are still few references compared to other subjects. The last column shows the source used as a methodological reference to carry out the SLR.

After analyzing all the information explaining the methodology employed in the articles, there seems to be a difference between practical and theoretical methodologies. Many articles cite the use of the PRISMA, SMARTER, or SNOWBALLING algorithms to extract the articles to be analyzed. We consider the methodologies proposed by Denyer & Tranfield (2009), Keele (2007), Levy & Ellis, (2006), and Tranfield et al. (2003) to be much more accurate, since from our point of view, a theoretical methodology for conducting SLR should include the whole process of investigation and not just a search algorithm to extract a set of articles.

The use of one methodology or another is a hands-on procedure where the author decides which one to use based on his/her experience. We frequently see that the methodology focuses on how the theoretical approach is developed when performing the SLR but does not often concentrate on why. The theoretical approach requires establishing a prior data collection in the field of research in which it is to be applied, taking into account the type of circumstances in which the different authors have used it. In our opinion, it constitutes a preliminary step to understanding and doing research on SLR, determining which author has been predominantly used to establish which methodology is used the most in this field of research.

Most of the existing SLR is practical, meaning methodologically rigorous in terms of following a path for approaching the final result (i.e. PRISMA); however, a theoretical methodology should previously be followed before applying the SLR search scheme, and this is lacking. Following the argument put forward by Tranfield et al. (2003), applying it in an analogous way to this research, a theoretical methodology implies carrying out a previous process where the terms by which the SLR will be carried out are of theoretical relevance. The use of expert panels before the compilation of the literature through search equations should be a mandatory start. An integrative theoretical statement like this would give higher criteria for methodological validity since the initial process of searching is contrasted by a theorist-practitioners panel review.

Thus, regarding the first research question about which theoretical methodology is most used in an SLR of digitalization, it can be seen that according to the analysis carried out, as well as the bibliometric analysis using VOSviewer Software, the most used theoretical methodology approach is that of Tranfield et al. (2003).

Table 4. List of Systematic Literature Reviews (SLR) on the Digitalization topic

Authors	Pub Year	Pub Type	Field of Research	Research domain	Period	Databases	Screened papers/ Final Sample	SLR Applied Methodology
Knudsen et al.	(2020)	Article	08	Accounting	2007-2017	27 journals	103/33	Ron and Rhode (2007)
Osterrieder et al.	(2020)	Article	08	Smart Factory, Industry		EB., E., PQ, and SD	-/124	Vom Brocke et al. Cooper (1988)
Carvallone & Palumbo	(2020)	Article	15	Health/Technology	1999-2019	S., WoS, and P.	1194/40	Littell et al. (2009)
Gheidar et Mehdi	(2020)	Article	15	Employment	-	Informal Reviews	16	Okoli and Schabram (2012)
Clarke, D,	(2020)	Preprint	15	Investments	2015-2020	GS., ASU, EB	23	Trandfield el Al. (2003) PRISMA
Schinagl & Shahim	(2020)	Article	08	Information Security	1996-2018	Web of Science	146/76	Horne et Al., (2017)
Nosratabadi et al.	(2020)	Pre-print	15	Food Industry	1999-2019	WoS, S, SD, E, J-store, and Sage	849/72	PRISMA
Chang & Chen	(2020)	Article	08	Blockchain-Bitcoin	2016-2019	IEEE,ACM DL, GS	-/186	Tranfield el Al. (2003) Kitchenham et al. (2008)
Marques & Ferreira	(2020)	Article	08	Health/Technology	1973-2018	Scopus	749/53	Edwards, W. (1977)(SMARTER)
Wulff et al.	(2019)	Article	08	Health/Technology	2014-2019	Pub, IEEE, Embase, S, SD	2373/55	PRISMA
Mahmood et al.	(2019)	Article	15	Corporate Gob.	2008-2018	SD, SL, IEEE, E, JSTOR, GS, PQ	103/55	Levy and Ellis (2006)
Hausberg et al.	(2019)	Article	15	Digital transform.	2000-2015	Web of Science	-/1815	Levy and Ellis (2006)
Haas, Y.	(2019)	Article	15	Retail business	2014-2019	WoS and E	248/28	Quantitative-Qualitative
Babar & Yu	(2019)	Proceed	08	Digital transform.	2010-2019	PQ	818/36	Okoli and Schabram (2012)
Ancillai et al.	(2019)	Article	15	Social Selling	2012-2018	S, E, and WoS	109/29	Thorpe et al. (2005) Tranfield et al. (2003) Webster &
Hoang et al.	(2019)	Article	08	Smart City Projects	2008-2018	Scopus	606/76	Van Eck & Waltman (2010)
Junge, A.		Article	08	Logistics	2015-2018	EB	388/62	Durach et al., (2017)
Sahlin & Angelis	(2019)	Article	15	Performance	1987-2017	Scopus	2560/241	Tranfield et al. (2003)
Mukhopadhyay & Bouwman	(2019)	Article	08	Platform Ecosystems	2010-2017	PQ, EB, SD, JSTOR, Informs, GS and E	76/48	Rowley and Slack, (2004)Webster and Watson, (2002) Zhang et al., (2014)
Monteiro et al.	(2019)	Article	08	Hybrid Project	2014-2019	WoS	279/7	PRISMA
Helbin & Van Looy	(2019)	Proceed	08	Organizational	2014-2018	SD, E, SL, IEEE, ACM, S, WoS	892/47	Kitchenham et al. (2008) Webster & Watson (2002)
Milian et al.	(2019)	Article	08	FinTech	1980-2018	WoS and S	211/179	Kitchenham et al. (2008) Levy and Ellis (2006)
Sanchez-Gonzalez et al.	(2019)	Article	08	Maritime transport	2002-2017	INGENIO (Polytechnic University of Madrid)	99	Tranfield el Al. (2003)
Wichmann & Wißotzki	(2019)	Chapter	08	Health/Technology	2005-2017	AISeL, IEEE, S, and SL	-/405	Kitchenham et al. (2008)
Wiedenmann & Größler	(2019)	Article	15	Supply chains	2006-2018	EB, E, SD, TF and Ec	77/35	Tranfield el Al. (2003)
Kollwitz & Dinter	(2019)	Chapter	15	Hackathons	Mid 2000	AIS Electronic Library (AISeL), IEEE Xplore Digital Library (IEEE) and WoS	234/189	Vom Brocke (2009) Webster & Watson (2002) Cooper (1988)
Nazir et al.	(2019)	Article	08	Big Data	2008-2018	IEEE, Pub, SD, S, TF, W	568/190	Kitchenham et al. (2008)
Gebayew et al.	(2018)	Proceed	15	Research Methodology	2014-2018	SD, SL, IEEE, ACM, ISIS	1564/30	Okoli and Schabram (Okoli & Schabram, 2012)
Lammers et al.	(2018)	Proceed.	15	Australia Business digital transformation	2010-2017	Government and CSIRO reports	-/58	Levy and Ellis (2006)Webster & Watson (2002)
Liu, F.	(2018)	Article	15	Creative Industries	2010-2016	WoS	1239/50	Transfield et al. (2003) Petticrew and Roberts (2006)
Wilson & Wnuk	(2018)	Chapter	08	Digital business strategy	-	GS	2948/477	Wholin (2014)) Snowballing
Marquardt, K.	(2017)	Article	08	Smart services	2013-2018	GS, S, E, El, and SL	180/65	Not referred
Schäffer & Leyh	(2017)	Chapter	08	Master data management	2015-2016	GS, IEEE, SL and AIS and Interviews	155/44	Vom Brocke (2009)

Notes:
08= Information and Computing Sciences, 15= Business and Management
Initial Sample = 42; Final Sample:33; Excluded references: 9 (6 Not related,1 Not English, 2 Not accessible). **GS=**Google Scholar, **WoS**=World of Science, **S**=Scopus, **SL**=Springer Link, **SD**=Science Direct, **E**=Emeral, **EB**=EBSCO, **PQ**=ProQuest, **P**=Pubmed, **ASU**=Academic Search Ultimate, **TF**=Taylor & Francis, **W**=Wyley. **E**=Elsevier, **Ec**=EconBiz

4.4.2 Different Business Operations, Different Business Digitalizations.

Digitalization is a process of change and the development of new mechanisms, procedures, and technological infrastructure in an organization to increase the efficiency of its organizational processes. Much of the existing literature on the digitalization of a company has studied the concept from one single and singular point of view, without paying attention to and regardless of the economic environment in which the company operates. Digitalization in the service industries is usually undertaken from a Servitization perspective, which is a process of vertical integration (Kox & Rubalcaba, 2007).

Digitalization is a process that makes a complete change in the organizational structure of the company, resulting in a rationalization of the entire business. Therefore, we could consider it a multilevel concept (Smith, 2003, 2012). Multilevel means that digitalization transcends the mere 'digitation' of organizational processes. It must be reconsidered as a multitiered process with an ecological vision of digital transformation that leads to comprehensive change at all company levels: social, relational, productive, distributive, ecological, and more.

There used to be an overlap of product and service digitalization without differentiation. However, the emergence of a new kind of company, exclusively service-oriented, with comprehensive use of digitalization and completely dedicated to its activity in the service sector, is changing the way digitalization is seen. These circumstances create a new comprehensive digitalization paradigm for the kind of companies that do not make any changes and do not transform their processes because they already start out as digital natives. To answer the hypothesis (RQ2), a systematic analysis of the literature must be performed to see if a paradigm shift is appearing in digitalization. This would mean a different digitalization process from the past for both product-manufacturing and service businesses.

To perform an exhaustive in-depth analysis of the keywords used for the research topic, different databases were chosen, and the search string was applied to them. The selected databases were Proquest, EBSCO, Web of Science, and

Scopus (Cooper, 1988; Levy & Ellis, 2006). These databases are well-oriented and the most used in the field of digitalization, according to our first RQ1. A common search equation with some exclusion criteria was constructed for every round of the search without time restrictions, as shown in Table 5.

Table 5. Number of Selected Articles by Database and Exclusion Criteria.

	First search round	**Second search round**	**Third search round**	**Fourth search round**
	TITLE: ((‘Digitalization’ OR ‘Digitalisation’ OR ‘Digital transformation’)) Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH)	**TITLE: ((‘Digitalization’ OR ‘Digitalisation’ OR ‘Digital transformation’))** Refined by: DOCUMENT TYPES: (ARTICLE) AND LANGUAGES: (ENGLISH) AND FULL TEXT AND PEER REVIEWED	**Industry /Service & Commerce** (Including all obtained references)	**Industry /Service & Commerce** (After erasing duplicates and discarding nonrelevant articles)
SCOPUS	328	280	37 / 23	15/14
WoS	246	117	18 / 14	9/6
ProQuest	373	157	15 / 9	5/5
EBSCO	369	219	19 / 14	4/5
	1.316	**773**	**89 / 60**	**33/30**

As a result of the first search, an initial sample of 1316 articles was obtained, which were structured by databases as seen in Table 5. A set of constraints was applied to the main sample of articles. These constraints were the ones that were used the most in the literature on the subject (Littell et al., 2009; Waltman et al., 2010; Webster & Watson, 2002; Wohlin, 2014).

First, only articles written in English that had been peer-reviewed were selected. Second, the sample was filtered for articles about ‘manufacturing industries’ and then for those about service and commerce companies. A final sample of 89 articles was obtained for manufacturing industries and 60 articles for service and commerce companies. In the final stage, all abstracts were read to remove articles that were not related to the research topic. As a result, 33 articles on industrial digitalization and 30 articles on service digitalization were found.

As summarized in Table 6, which shows all references by year and source, this topic has become increasingly important over the past few years. Research on digitalization can be seen to be separated into two different areas: the industry sector and the services sector.

Table 6. Number of Selected Articles by Database and Exclusion Criteria.

	INDUSTRY ORIENTED				SERVICES ORIENTED					
	EBSCO	PROQUET	SCOPUS	Wos	EBSCO	PROQUEST	SCOPUS	Wos	Σ INDUSTRY	Σ SERVICES
2020		1	7	4	1			2	12	3
2019	6	8	18	8	5	4	16	6	40	31
2018	6	4	7	2	2		4		19	6
2017	3	2	2		3	3	3	4	7	13
2016			3	1	1	1		1	4	3
2015	1				2	1			1	3
2014									0	0
2013	1			2				1	3	1
2012	1								1	0
2011	1			1					1	0
TOTAL	89				60					

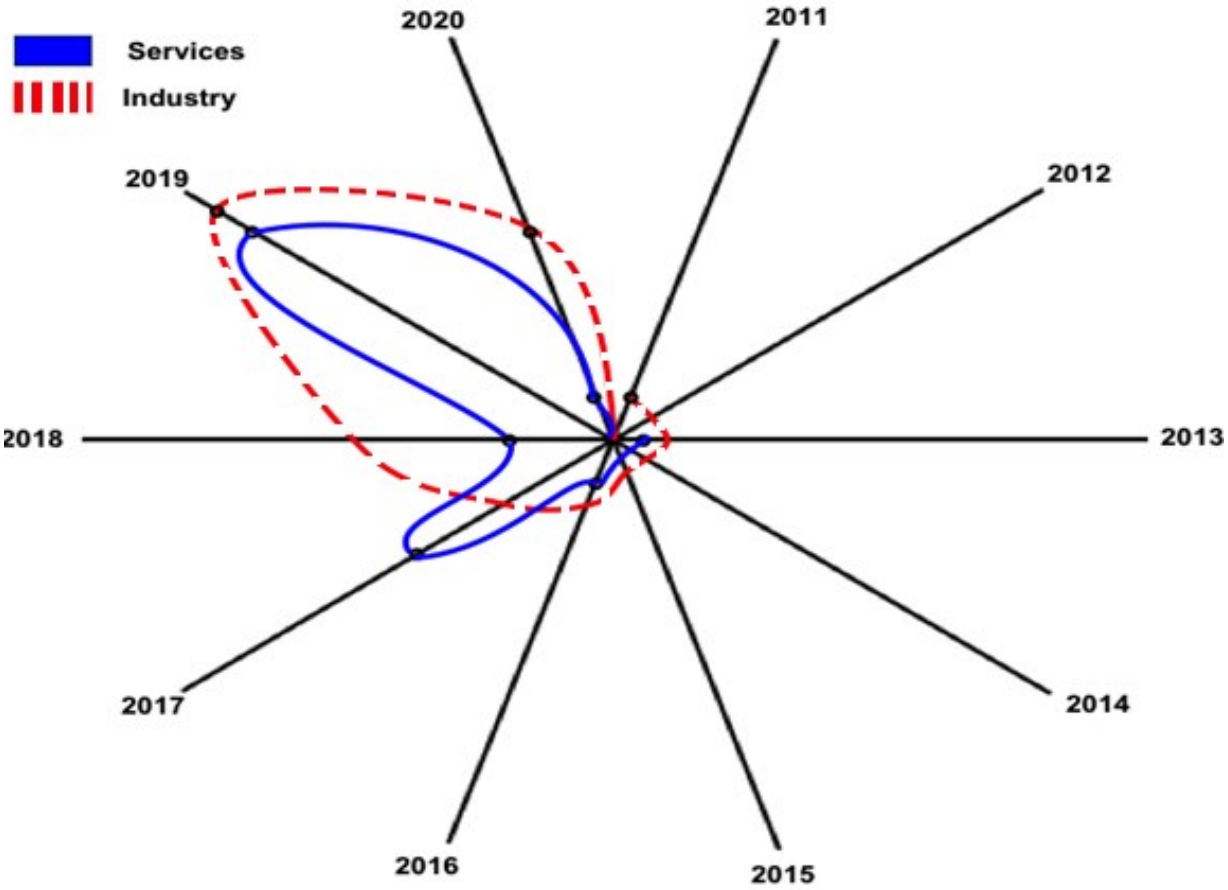


Figure 5 Temporal Path of Digitalization Orientation.

Figure 5 shows where both lines of research are separated. Digitalization is generally applied indistinctly. Although there has been a clear vertical integration of services in the manufacturing industry, which is usually called servitization, (Gebauer et al., 2020) the process of digitalization or technological transformation of a company is not the same for every sector and should be identified when researching digitalization. This means that servitization does not always result in digital transformation. Table 7 shows the changes in the digitalization pathway.

Table 7. Explanation of the Changes in Digital Orientation.

From	To
Goods Orientation	Service Orientation **(1)**
Cost Reduction	Value and Revenue Expansión **(2)**
Owned Property	Shared Property **(3)**
Low Risk and long investment return	High risk, high yield, short investment return **(4)**
Standardization	Customization **(5)**

1. From Goods to Service Orientation: The progressive reduction in profit margins in certain mature sectors led to the use of servitization as vertical integration of certain services within the manufacturing industry. The rapid expansion in the use of this servitization by competitors, as well as the continuous search and maintenance of competitive advantage, have forced certain sectors to initiate new activities that are digitally intensive and oriented solely to services. In addition, they are seen as new opportunities to differentiate themselves. Thus, the transition from the digitalization of products linked to servitization towards the digitalization of the industry oriented only to services (financial, marketing, audiovisual, online storage, etc.) has been boosted as an incentive for searching for new competitive advantages (Vandermerwe & Rada, 1988)

2. From Cost Reduction to Value and Revenue Expansion: Digitization and digitalization in manufacturing companies have their origins in cost savings to increase revenues and productivity. Servitization introduced a novelty in terms of the creation of complementary services to manufactured products; simply intended to create economies of scale and services. However, the continuous expansion of the industry toward the capture of value has made it so that more and more manufacturing companies have become exclusively service companies

(Björkdahl, 2020; Björkdahl & Holmén, 2019) and this leads us to think about and explain one of the paradigms introduced in this article, which is that digitalization is a concept defined and characterized by the developed activity depending on its orientation (sales/services).

3. From Owned Property to Shared Property: The digital transformation in the service industry has allowed many of the operations support that was initially held by the company to now be shared with third parties. With the digitalization of back-end operations through shared digital services instead of through owned or internal property, companies can expand efficiently, achieve significant time savings, and avoid restructuring costs (Bergeron, 2002; Forst, 2001; Lichtenthaler, 2017; Sako, 2010).

4. From Low Risk and Long Investment Return to High Risk, High Yield, and Short Investment Return: Manufacturing companies transformed into service companies because of falling profit margins in their mature sectors have seen their margins grow and return on investment improved. However, this also implies an increase in investment risk.

5. From Standardization to Customization: Standardization in the manufacturing industry has usually been linked to scalability and cost reduction, and digitalization has played a fundamental role in this process (Nooteboom, 1992). The Internet of Things, the Internet of Services, and data mining have enabled new forms of customization and personalization. Digitalization has allowed us to go from mass customization to personalization, which means that better coverage of customer needs is achieved through certain services. Customization and personalization of services have made it possible to increase the scale, scope, and value of businesses, increasing quality, cost savings, variety, and efficacy through on-demand production services (Hu, 2013).

The reviewed literature revealed that until now many researchers have investigated different types of servitization as an extension to manufacturing (Martinez et al., 2017) but it is currently being considered as a change in the company's competitive strategy (Cusumano et al., 2015; Kox & Rubalcaba, 2007; Rubalcaba, 1999). Although digitalization processes for service companies were

initially complementary to the product offered (Frank et al., 2019), nowadays digital transformation processes must be considered to be different in product-oriented industries, and service-oriented industries since they deal with different industrial environments in a Schumpeterian way (Visnjic et al., 2016). Table 7 shows how digitalization strategies have different objectives in business models.

4.4.3 The Special Case of Digitalization in the Consulting Sector. A Service Digitalization Example.

The business consulting sector has undoubtedly undergone a great digital transformation in the entire economy (Krüger & Teuteberg, 2018). Many of those who are presently partners of large consulting firms can recall how, not even two decades ago, there were large offices with staff intensively recording company accounts. Many forms had to be completed by hand and then sent to the tax office by mail, and entire floors of a building were used to store documents. The business model of the sector at those times was exclusively face-to-face interaction (Nissen et al., 2018), with very high labor costs and equally high fees for the services provided.

The digital transformation of the consulting sector has three main causes: a rationalization of costs, legal imposition, and a search for new scale economies. Therefore, to answer RQ3, a systematic review of the literature was carried out for digitalization in the consulting sector. The search used a Boolean equation and the results were filtered with the criteria shown in Table 8 and Figure 6.

Table 8. Selected Papers on Digitalization in Consulting Services.

		Initial search	Excluding duplicates	Excluding not related to digitalization in consulting services after revising the abstract
SCOPUS	(S)	55	54	10
WoS	(W)	27	20	6
ProQuest (Abi-Inform)	(P)	43	42	7
EBSCO	(E)	8	8	1
		133	**124**	**24**

Search string: (((‘Digitalization’ OR ‘Digitalisation’ OR ‘Digitation’ OR ‘Digital transformation’) NEAR (‘Advising’ OR ‘consulting’ OR ‘Accounting’)))

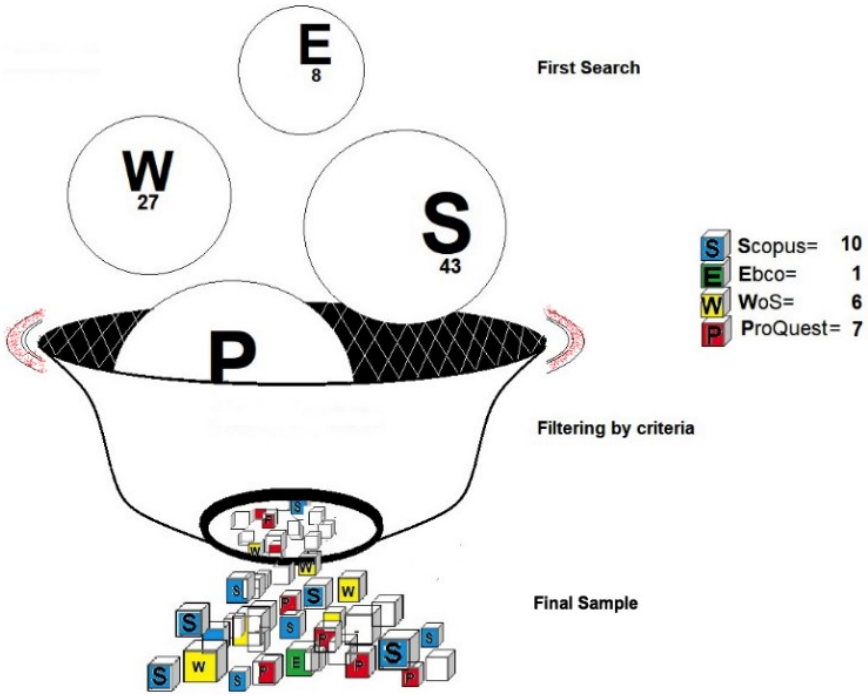


Figure 6 Search Protocol Phases Filtered by Criteria.

Although the digitalization and digital transformation of companies in all sectors have been extensively researched, as shown in Table 8, there is a lack of articles on accounting, tax, and labor advice in the digitalization of the consulting sector. The final sample of selected articles, once thoroughly studied, consisted of 13 articles from the 24 results after the previous filter stages. This is surprising, as the literature states that Industry 4.0 applies to the consulting sector.

The digital transformation of the consultancy sector can provide more accurate, high-quality, real-time accounting and more effective reporting for decision-making (Burritt & Christ, 2016). The administrative processes in the company have evolved and streamlined all back-office processes while reducing management costs. These improvements have been very important for companies providing accounting, tax, and labor advice services.

The digital transformation processes implemented in consulting companies in recent years have been of paramount important. The great competition in the sector has led consulting companies to begin to implement computer systems that allow them to control all areas of the client's company in an integrated way

with a significant reduction in personnel costs. The role of digital transformation has not only been accompanied by a reduction in costs but has also been used as a way to increase revenue (Werth & Greff, 2018).

Consultancy companies have not only been the drivers and facilitators of digital transformation in many companies but have also begun to adapt their business models to their clients (Jeronimo et al., 2019). Digital transformation and increased investment in the consulting sector have been motivated by internal and external factors. Table 9 shows the factors that have motivated the increase in the digital transformation of the sector.

Table 9. Trigger Factors for the Boost of Digitalization in the Spanish Consulting Sector.

	ECONOMIC	**ORGANIZATIONAL**
INTERNAL FACTORS	Efficiency (+) Scale Economies (+) Operational Cost (-) Structural Cost (-)	Spatial Flexibility (+) Data Security (+) Job Overlap (+) Compliance(+)
	CLIENT	**INSTITUTIONAL**
EXTERNAL FACTORS	New Software Requirements (-) Just in Time Consulting (-) Data Mining Decision Making (-)	Compulsory Tax Filing (-) Electronic Notifications (-) Paperless Public Office (+) e-Government (+)

Source: Own elaboration, adapted from Nissen & Seifert (2018).

The increase in the digitalization of the consulting sector has occurred for different reasons. On the one hand, a series of external factors have caused companies in the sector to implement modern technology as a solution to the challenges and opportunities that have arisen. On the other hand, it has been due to external factors that are not related to the sector or the consulting companies themselves (Brazo, 2023).

4.4.3.1 Internal factors: Economic and Organizational.

The research results revealed eight internal factors that we identified as efficiency, scale economies, operational cost, structural cost (related to economic aspects), spatial flexibility, data security, reduction of job overlap, and compliance (related to organizational matters).

Internal Factors under Economic Perspective

Efficiency (+): DT has had a positive effect on the economic efficiency of the consulting sector. Evaluating the cost-effectiveness of digitalization results in consulting has a positive relation in terms of profits through technology, streamlined workflow, and alternative staffing models (Christensen et al., 2013).

Scale economies (+): Digitalization plays a positive role as an enabler of economies of scale, scope, and speed. Extending the point of view of Bharadwaj et al. (2013) the consulting industry has increased its size by offering new services through digitalization without the need for increasing infrastructure.

Operational Cost (-): DT reduces operational costs in consulting activities since these activities employ a large number of human resources that are reduced through digitalization.

Structural Cost (-): Digitalization reduces structural cost by transforming the operating business model and introducing flexibility and scalability through digital solutions. Since COVID-19 affected all industries, consulting has gained a structural cost advantage due to a reduction in physical footprint caused by the change in client behavior.

Internal Factors under the Organizational Perspective

Spatial Flexibility (+): Digital transformation in the consulting industry has resulted in spatial flexibilization, meaning an open office environment where, even in a crisis scenario, it has been possible not only to keep the consultancy operation running, but also to increase employee productivity. Knowledge-intensive work has transformed the workplace into a multi-platform ecosystem where employees are no longer attached to an office but to a digital platform. These circumstances have made it possible for office space to be used more

efficiently, cutting down on overlapping staff hours or lagging work performance, drastically reducing costs in terms of time and money.

Data Security (+): DT has also made it possible to boost data security since consulting firms have experienced several years' worth of digitalization in a month due to COVID-19, not only for their infrastructures but also for clients.

Job overlap reduction (+): DT has positively affected a reduction in job overlap. Workers in organizations have had their duties simplified, reducing job overlapping. In terms of consulting, the development of information and communication technology (ICT) helps workers save time, making this information more available to clients (Løberg, 2020).

Compliance (+): Consultancy compliance has developed a kind of cyber-government of consulting companies. Compliance fulfillment has grown with the pandemic. Digitalization has improved compliance by standardizing the tasks to be achieved (Parviainen et al., 2017).

4.4.3.2 External Factors: Clients and Institutions

The results also revealed seven external factors that we identified as those related to clients (new software requirements, just-in-time consulting, data mining-based decision-making) and related to institutions (compulsory tax filing, electronic notifications, paperless public office, and e-government).

It is often said that there is no greater motivation than the need and obligation to have to do something by force. Agility is frequently cited as one of the requirements for successful digitalization (Kohlen & Holotiuk, 2017). It is suggested that one of the most important triggers for company digitalization is the need to ensure readiness for digital transformation (Berghaus & Back, 2017). Digital transformation enables companies to adapt to changes in their environment, helping them to remain competitive and maintain competitive advantages. Changing those practices has frequently increased through the

consulting sector. Developing a new digital strategy often comes from external partners that are needed due to the ever-changing and fast movement of digital trends. Therefore, external triggers are key channels to increase the capabilities of the digital firm.

The Spanish consulting sector is such a case, where external factors have motivated the digital transformation to occur faster.

External Factors from the Client's Perspective

New software requirements (-): COVID-19 has changed the way the consulting industry operates. Consultancy has adapted its offer to meet clients' preferences and demands, providing reliable and high-quality standards at a low cost with the same human resources.

Just-in-time consulting (-): Due to the pandemic, knowledge-intensive services have gained flexibility since it is no longer necessary to go to client facilities to get advice. Customers need more rapid advice, and online consulting technologies provide a way to do this. Company-wide management programs, which offered complete integration with consultants, were created so that visiting the company would no longer be necessary, with the enormous reduction in costs that this entailed.

Decision-making on data mining (-): Data mining and business intelligence (BI) have become the key to providing unique professional services to clients (Ibrahim et al., 2014). BI has provided consulting companies with a new strategic field that impacts and enhances their business sustainability.

External Factors from an Institutional Perspective

Compulsory tax filing (-): In the late 1980s and early 1990s, the Spanish public administration began to force companies to send certain documents to the administration electronically (Guillén Caramés, 2010).

Electronic Notifications (-): The process has advanced rapidly, so nowadays almost all transactions with the public administration have to be submitted online. The latest case started in 2020, with a new technological revolution in business and administration due to the Covid-19 crisis. The government imposed the obligation to send documents online, forcing many companies in the consulting sector to adapt their organizational models to the new system.

Paperless Public Office (+): The extensive use of new mechanisms for the electronic filing of documents in public administration is allowing for massive digitization of documents, leading many companies to undertake a complete digitization process.

E-Government (+). The e-Government has allowed the materialization and articulation of the digital transformation of many companies and organizations. For the implementation of e-government (Gilbert & Balestrini, 2004), consulting companies have played a fundamental role as a causal link of the said transformation between e-government and the companies (Rey-Moreno et al., 2018).

The evolution of the consulting sector in the last 10 years has tended toward a paperless office business model, primarily motivated by endogenous factors such as optimizing the price of services, reducing structural costs, and reducing labor costs, as it is an eminently labor-intensive activity. The change in the business model towards virtualization (Overby, 2012; Seifert & Nissen, 2018) has been seen in the literature as a necessity rather than as a self-guided change. It is an adaptation of business models where resilience has played an important role in adapting to changing market needs (Jeronimo et al., 2019).

The digitalization of processes in the sector has caused a change as radical as a change from the typewriter to the computer. Now, online accounting is done without the need for an accountant, the tax documents presented to the Treasury are self-generated, and dashboards and treasury predictions are

simultaneously created while accounting. All these jobs, which were previously labor-intensive, now take advantage of the synergies created in the internal processes of the company with the implementation of integrated ERP programs. Internal factors can be looked at from two different points of view, an economic one motivated by the reduction in costs and the increase in efficiency with scale economies, and also as an organizational advantage enabling communication within and outside the organization.

One of the most important factors for digital transformation is centered on cost savings. Bilgeri (2017) highlights and points out potential partnerships (consulting sector) as facilitators of digital transformation since they avoid the birth of internal pricing and cost conflicts.

The explanation for the new activity in the sector is the accelerating pace of technological changes driven by the disruption of new businesses. They are achieved by using the new strategic business models that have begun to emerge. Business models, such as that of Legalitas Online Lawyers (in Spain), have revolutionized law consulting by mixing the digitalization of online counseling procedures with the introduction of a very affordable online fee for a consulting service that has achieved high returns.

CHAPTER 5.
Internal Drivers.
Learning Orientation, Absorptive Capacity and Resilience.

5.1 The impact of Learning Orientation, Absorptive Capacity and Resilience in Digitalization and Business Survival.

Digitalization is the structural transformation process that leads the company to improve its production processes. In the short term, it implies improving profitability (Verhoef et al., 2021) as well as the quality of its products and services; in the long term, it constitutes an asset for business survival as well as value creation for all stakeholders (Amit & Zott, 2001).

5.1.1 Digitalization and Business Survival.

The terms ‘digital transformation’, ‘digitalization’, and ‘digitation’ have been extensively written about. Unfortunately, the literature has prompted contradictory findings, often leading to criticism of the lack of a comprehensive and sound theoretical definition for studying these fields. Therefore, scientific rigor is required in the theoretical treatment of this field, which can offer a novel, fresh, and unique perspective. (Garzoni et al., 2020;Knudsen, 2020).

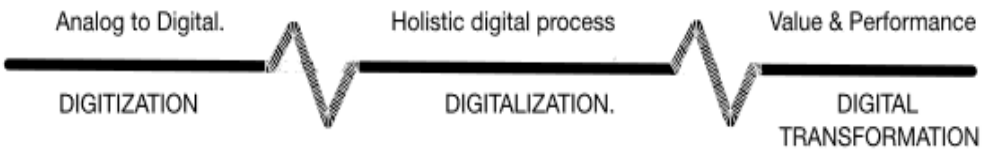


Figure 7 Holistic Digitalization.

The term ‘digitalization’ is often debated due to its ongoing nature, making it difficult to define. However, it generally refers to the process of introducing digital means to replace analog methods in business operations. As noted by Tilson et al. (2010), see Figure 7, this process has a starting point that involves dealing with the technological shift. As analog processes are replaced by digital ones, businesses shift towards a more digital organization. This transformation is commonly referred to as digitalization, as noted by Legner et al. (2017). Digitalization is a significant step for businesses as it leads to digital transformation, which involves organizational improvements in profitability, performance, and value (Brown et al., 2014; Westerman et al., 2014). In

summary, digitalization is an ongoing process that results in a company's digital transformation, leading to significant improvements in various business operations. Following this thought, we see that, while the relationship between digitalization, performance, and profitability has been extensively explored, there is a lack of research assessing digitalization's influence on business survival (Rossato & Castellani, 2020). Could the relationship between digitalization and performance be extended to business survival? Although factors such as firm size and longevity have been highlighted as determinants of business survival, the question is the following: What happens when economic turbulences arise? Could the firm's digitalization help it weather such turbulences and therefore increase its survival chances?.

Most organizations over 100 years old today rest their longevity on their ability to withstand technological shocks. They fight to manage their competitive advantages more efficiently to overcome competitors while looking for new prospects and business models. (Banbury & Mitchell, 1995). Although digitalization has enabled many business sectors to optimize their resources and capabilities, helping them better adapt to the economic environment, on other occasions, the unsuitability to technological changes or business shortsightedness has led to the decline and turnaround of the company. More research is required to investigate the capacity of companies to cope and adapt to an environment flooded with strategic challenges, crises, accidents, and sudden and unexpected disasters (Koronis & Ponis, 2018). These premises are not lacking in the examples. Gonzalez-Byass, an English firm in the senior wine market with more than 100 years of existence, was able to take advantage of digital transformation and innovation in its commercial networks to become one of the largest corporations in its category. However, its failure to adapt to new technologies resulted in the collapse of its empire. (Fernández-Pérez, 1999). Another case in point is the publishing industry. The rise of digital newspapers coincided with increased anxiety about the difficulty of monetizing free information (Casero-Ripollés & Izquierdo-Castillo, 2013) and the difficulty of maintaining local newspapers at significant losses (Cho et al., 2016). Thus, digitalization has contributed to this sector in generating new sources of income, but, on the other hand, it has also condemned many newspapers to closure. The same case can

be found in the music industry, another sector that has also experienced a radical digital transformation in its sales channels. In 2020, Vivendi returned a total income of €16.09 billion, up from €15.9 billion the previous year. Most of Vivendi's revenue that year came from the growth of Universal Music Group; Undoubtedly, digitalization has been a game changer for the music industry sector (Husin & Hidayanto, 2018; Lee et al., 2020) but at the same time, the growth of Internet piracy has also endangered it. We suggest the following research hypothesis (see Figure 8) based on these assumptions:

H1(+): Digitalization (DI) positively affects business survival (SU).

5.1.2 Absorptive Capacity, Digitalization, and Survival.

Absorptive capacity (CA) was initially defined as the ability to identify, assimilate, transform, and apply external knowledge from the environment (Cohen & Levinthal, 1990). Zahra and George (2002) suggested that absorptive capacity be rethought to reduce ambiguity in investigations, establishing a reconceptualization based on prior experience and knowledge. However, this conceptualization was challenged because it was unclear and lacking essential features; in this regard, Todorova and Durisin (2007) advocate the incorporation of the term 'power relationships' and the importance of feedback loops in the role of absorptive capacity.

Feedback loops are essential for a company's ability to channel information, and knowledge flows through its structures, allowing this knowledge to be applied more effectively and resulting in greater corporate success, not just in terms of performance, but also in terms of survivability (Roberts et al., 2012). Therefore, improving knowledge absorptive capacity improves business success in terms of survival and constitutes an advantage in anticipating market conditions and competitors' threats and adapting to innovations in the sector. Furthermore, improving absorptive capacity strengthens the company's position in understanding, reacting to, and implementing these digital capabilities within the company (Gold et al., 2001). In this sense, absorptive capacity is primarily related to innovation, technology management, and technological progress (Siachou et

al., 2021). Based on these assumptions, knowledge absorptive capacity could be viewed as a resource contributing to the company's digitalization. Based on these considerations, we propose (Figure 8):

H2 (+). Absorptive capacity (CA) positively affects digitalization (DI).

The literature highlights the importance of organizational learning for a company's survival and successful organizational performance (Inkpen & Crossan, 1995). Long-term success, which must necessarily be understood as business survival, is based on the company's ability to capture and internally integrate new external knowledge to achieve its business goals, which is a dynamic capability defined as CA (Cohen & Levinthal, 1990; Todorova & Durisin, 2007; Zahra & George, 2002).

Building and maintaining absorptive capacity plays a critical strategic role in the survival and long-term success of a business, as absorptive capacity can strengthen the knowledge base of the company. This ability to learn and assimilate external knowledge is crucial for company survival. Enterprises learn from their resources and their surroundings in a continuous learning loop. Based on these assumptions, we state the following hypothesis (see Figure 8):

H3 (+). Absorptive capacity (CA) positively affects business survival (SU).

5.1.3 Learning Orientation, Digitalization, and Survival.

Learning orientation can be defined as the driving force that pushes the formation and development of capabilities that allow the organization to improve its performance and results (Real et al., 2014). In terms of digitalization, learning orientation (LO) means training to be innovative. Learning is achieved primarily through organizational interactions and environmental observations (Calantone et al., 2002). Organizations must equip themselves with specific capabilities to enhance their skills and thus achieve a competitive advantage and improve their performance compared to their competitors. As pointed out in the literature (Ngereja & Hussein, 2021; Schuchmann & Seufert, 2015; Wang, 2008), learning

orientation is a prerequisite for process innovation and digitalization, so it can be considered an accelerator of digitalization.

Learning creates capabilities, and the inability to acquire such learning capabilities may result in a firm being unable to choose among the technologies it has to invest in (Bowman & Hurry, 1993) and also in lacking the core competencies needed to develop the required characteristics or quality of the value of the technological offering (Cohen & Levinthal, 1990). This leads us to consider that investing in learning also creates technological capabilities. Therefore, firms that do not invest in learning are likely to be slower than other firms in capturing emerging trends in the market and therefore slower in reacting to new technological developments.

Reacting to new issues of technological development requires training. Learning is a critical component of digitalization. Digital learning is the procedures and technological tools that prepare businesses to adapt to new technologies (Marino-Romero et al., 2022). Based on these assumptions, we suggest the following research hypothesis (see Figure 8):

H4 (+). Learning orientation (LO) positively affects digitalization (DI).

The company's ability to learn, both from competitors and from its own mistakes, not only has an impact on digitalization but could also impact survival (Li & Calantone, 1998). Learning is not simply an action aimed toward success; it is also, in many cases, a resource against failure. Companies that learn from their failures are more likely to face environmental challenges. Failure can contribute to the eventual success of those who learn from their own mistakes and those who can learn indirectly from the experiences of others. Failure is a necessary condition for learning (Amit & Thornhill, 2003; McGrath, 1999). According to this statement, we could also hypothesize (see Figure 8):

H5 (+). Learning orientation (LO) positively affects survival (SU).

5.1.4 Organizational Resilience, Digitalization, and Survival.

Organizational resilience is a latent path-dependent construct related to survival (Ortiz-de-Mandojana & Bansal, 2016). Resilience has been broadly studied in the literature in many fields: performance (Mouzas & Bauer, 2022), value chain (Linkov et al., 2020), digitalization (Do et al., 2022), crisis management (Sakurai & Chughtai, 2020), etc. Organizational management has also embraced this artifact to explain the ability to endure, adapt, and even thrive in the face of shocks that can jeopardize the longevity of businesses (Chadwick & Raver, 2020; Lengnick-Hall et al., 2011).

Therefore, when we use the term business resilience, we refer to two circumstances: on the one hand, flexibility to change, and on the other hand, the ability to adapt to a hostile environment (Williams et al., 2017). To this extent, the firm's digital transformation is a consequence of the need to adapt to the turbulence of the environment. The resilience of business leads the company to accommodate such disturbances, often by digitizing specific processes. Thus, in this research, we propose that the company’s adaptation capacity, measured by resilience, leads to the development of digitalization processes conducive to digital transformation. Under these assumptions, we suggest the following research hypothesis (see Figure 8):

H6 (+) Resilience (RE) positively affects digitalization (DI).

When dealing with survival, companies act like humans: In adverse environmental conditions, the flexibility of response (resilience) to environmental challenges increases the chances of survival. In a turbulent world, the survivability of a company does not come from steady track performance, but rather from continually adapting to adverse and changing conditions (Friedl & Penetar, 2008; Vanderpol, 2002). According to the previous line of reasoning, we will analyze the following research hypothesis (see Figure 8):

H7 (+). Resilience (RE) positively affects survival (SU).

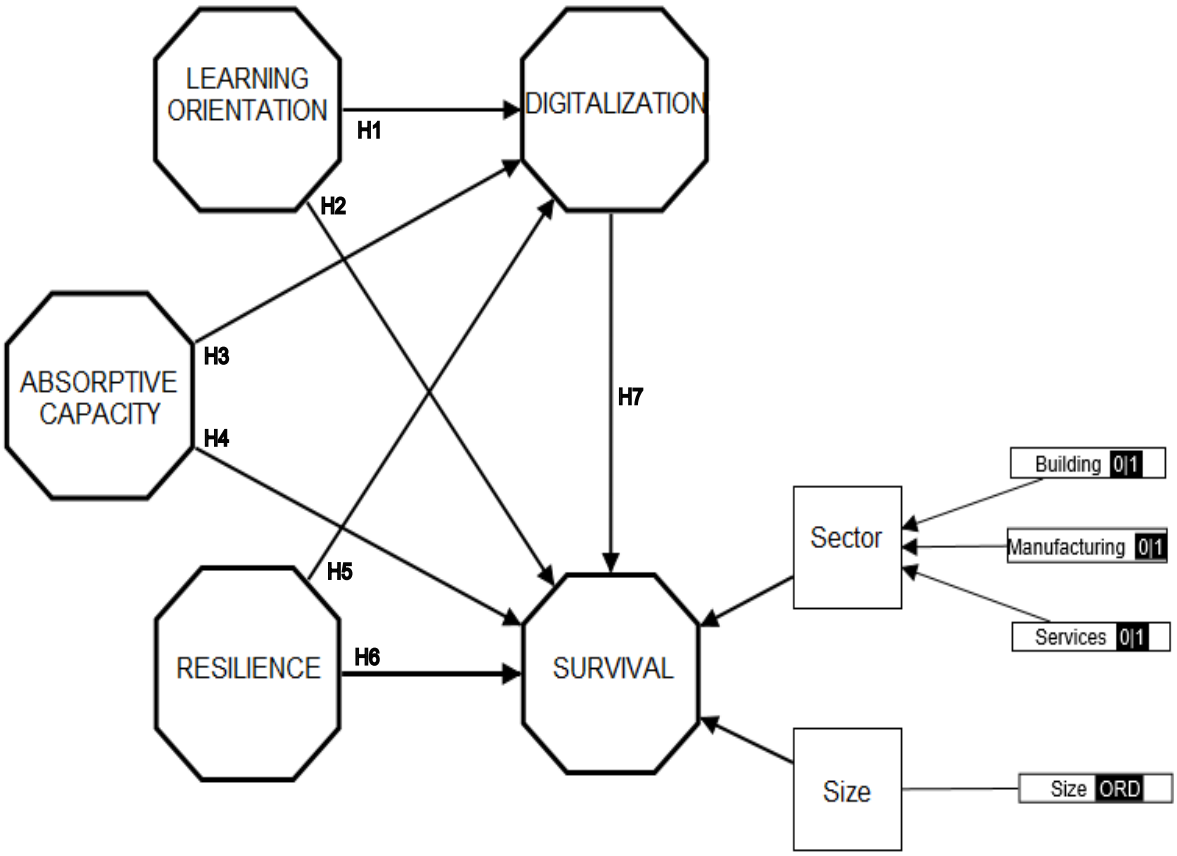


Figure 8 Internal Drivers' Proposed Structural Research Model for Survival.

5.1.5 The Mediating Role of Digitalization.

Digitalization mediates intermediate variables and organizational survival. Digitalization mediates survival through intermediate characteristics including learning orientation, absorptive capacity, and resilience, according to several studies.

H8 (+) Digitalization (DI) positively mediates the relationship between LO and SU.

On the other hand, absorptive capacity refers to an organization's ability to assimilate and apply knowledge from external sources. Digitalization provides firms access to various external knowledge sources, such as social networks and online communities, which can be leveraged to enhance their absorptive capacity (Siachou et al., 2021). According to this, we can say that:

H9 (+) Digitalization (DI) positively mediates the relationship between CA and SU.

Finally, resilience refers to an organization's ability to adapt and recover from adverse events. Digitalization improves resilience by enabling firms to respond quickly to crises through the use of digital tools such as remote work platforms, online communication channels, and data analytics (Heredia et al., 2022; Zhang et al., 2021)

H10(+) Digitalization (DI) positively mediates RE and SU relationships.

5.2 Investigative Framework.

5.2.1 Data Collection for the Research of Survival.

The statistical population of this study consists of all Spanish companies that have invested in digitalization, employ one or more employees, and are not sole proprietorships. Using a questionnaire, a sample was taken from these premises. We conducted a pilot pretest (n = 50) as a crucial step in the questionnaire creation process to gauge the potential effectiveness of the survey before the final distribution. The survey was issued to CEOs and business owners with the help of a well-known national market research organization for them to complete online.

Using a market research firm to collect data has many advantages, most notably generalizability (Ghasemaghaei & Calic, 2020). As a further test, the suitability of the respondents was analyzed (Atuahene-Gima & Ko, 2001) to assess the appropriateness of answering the questionnaire and the degree of decision-making of the respondents inside the firm. The time it took to complete the questionnaire was also considered. All respondents who took less than 9 minutes to complete it were disqualified because this time was deemed the minimum necessary for good reading and response. Six hundred and sixty-five people took the survey, with a response rate of 90.23 percent.

5.2.2 Measures.

Measures were produced after a thorough review of the current literature. The survey was divided into two sections: the first was to collect demographic information from the respondents, while the second featured measures on theoretical constructs for the current study (Table 10 displays the literature for construct operationalization). All dimensions were measured reflectively and participants were asked to rate their level of agreement/disagreement with each statement on a seven-point Likert scale, with '1' indicating severe disagreement and '7' indicating strong agreement. In our study, we suggest digitalization as a survival-explanatory variable. Therefore, both the operationalization of digitalization by Khin & Ho (2019) and the operationalization of survival by Naidoo are adopted in this study (2010). Three variables, absorptive capacity, learning orientation, and resilience - explain digitalization as an artifact. The scale developed by Flatten et al. (2011) is what we utilize to operationalize absorptive capacity. Furthermore, digitization and company performance have a favorable relationship with variable organizational resilience (Autio et al., 2021; Zimmermann et al., 2021). Following Williams et al. (2017), organizational resilience was operationalized. Finally, the learning orientation construct was operationalized using the scale recommended by Van de Walle (1997).

Table 10. Literature Framework for the Operationalization of Constructs.

Construct	Authors
ABSORPTIVE CAPACITY	Flatten et al. (2011)
LEARN. ORIENTATION	Van de Walle (1997)
RESILIENCE	Williams et al.(2017)
DIGITALIZATION	Khin & Ho (2019)
SURVIVAL	Naidoo's (2010)

Following Benitez et al. (2020), size (SI) and sector (SE) were introduced as control variables for the overall effect on survival. The size variable was measured on an ordinal scale. The size variable was constructed using four indicators, namely micro, small, medium, and large firms. The categorical variables of the four-firm size groups indicate whether an observation belongs to micro, small, medium, or large size.

5.2.3 Data Analysis.

The first step when using PLS-SEM must be to examine the outer model. It is paramount to determine whether we are modeling emerging or latent variables. An examination of the nature of the concept must see this. According to Henseler (2021, p. 43): ‘phenomena such as capabilities, indices, interventions, norms, plans, policies, portfolios, processes, recipes, strategies, and values are best modeled as emergent variables.’We used partial least-squares structural equation modeling (PLS-SEM) to examine and evaluate the proposed research questions. This approach has gained increasing prominence as a methodological approach in digitalization research (Bouwman et al., 2018).

We opted for PLS-SEM for several reasons: from the perspective of research goals, because our objective lies in identifying ‘key drivers constructs’; from the perspective of measurement model specification because reflexive constructs are part of the structural model; and from the point of view of the structural model, because this is a complex one (Hair, et al., 2022). Since the relationships between observed variables are related to concepts, they must be considered forged concepts, also called composite indicators. To this extent, we will use SmartPLS 4 software (Ringle et al., 2022). Subsequently, we will use the necessary condition analysis (NCA) (Dul, 2016; Richter et al., 2020) to identify the importance of attributes. By introducing these two approaches (PLS-SEM and NCA), we take advantage of the benefits of applying two complementary research approaches that help us identify the level of necessity in the variables of interest (Richter et al., 2022).

Through PLS-SEM, we establish the latent attributes of learning orientation, absorptive capacity, and organizational resilience that optimize digitalization and survival. We also discover essential attributes for high digitization and resilience using NCA analysis. The assessment of causality between the antecedent and dependent constructs by considering and testing both must-have and should-have factors using NCA and PLS-SEM has been recognized as a distinct and previously unacknowledged approach, as noted by Bergh et al. (2022).

5.3 Digitalization in a Turbulent Environment.

Most studies on business survival have focused on examining the conditioning factors that shape the function of business survival. The size and age of the enterprise are among the primary factors that have been extensively mentioned as determinants in explaining the survival rate (Cefis & Marsili, 2005; Yan & Williams, 2021).

The concept of survivability has been subjected to ex-ante analysis, specifically at the industrial level, where the likelihood of survival is contingent upon various factors, including underlying technological conditions prevailing in the market, economies of scale, and demand dynamics (Audretsch, 1991).

Survival evaluation can also be performed ex-post, particularly in regard to firms, using crucial variables to elucidate business survival, such as size, age, and others. Audretsch and Mahmood (1995) addressed this issue, revealing that both the ex-ante and ex-post stages could significantly impact the likelihood of survival (see Figure 9). The present argument posits that this research builds upon the research trajectory of the preceding study by exploring the ex-post factors that underpin business survival, including organizational resilience, learning orientation, absorptive capacity, and digitalization.

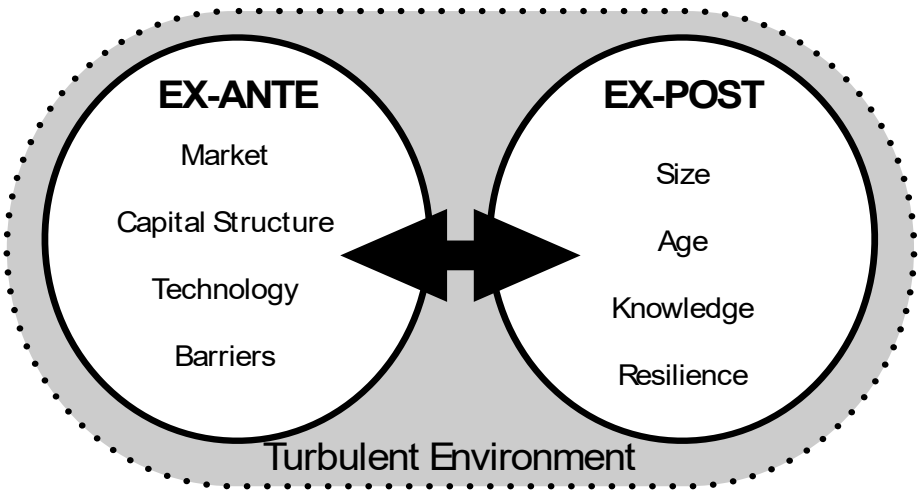


Figure 9 Dimensions of Business Survival.

Entrepreneurial resilience is the cornerstone of business survival. DiMaggio & Powell (1983, p. 149) state that organizational change is defined as: '... (the) change in formal structure, organizational culture, and goals, program, or mission'. The ability of companies to adapt to changes in the environment depends, to a large extent, on their flexibility-resilience, as well as on their ability to overcome internal and external obstacles and pressures. Failure to adapt to changes in the environment and delay in such adjustment will jeopardize the survival of the organization (Hannan & Freeman, 1977, 1993), while isomorphism with the environment will facilitate the success and survival of the firm. In this environmental adaptation process, learning orientation and knowledge absorptive capacity are also at the heart of understanding organizational change. Learning orientation embodies the binding of various learning mechanisms, such as improvisation, translation of ideas into practice, or the learning orientation itself (Weich & Quinn, 1999). Therefore, organizational change and organizational learning capacity generate a symbiosis around the organization as a dynamic process that allows the company to adapt to the environment, improving its performance (Real et al., 2014).

The relationship between learning orientation, knowledge absorptive capacity, and performance has received substantial attention in the literature (Calantone et al., 2002; Y. S. Chen et al., 2009; Kostopoulos et al., 2011). However, while resilience and business performance have been explicitly studied (Arifiani et al., 2022), the study of adaptability in terms of resilience and its effects on business survival through digitalization has been scarcely researched. In doing so, our first objective will be to measure the relationship between learning orientation, knowledge absorptive capacity, organizational resilience in business digitalization, and the relationship of this digitalization process to business survival.

Our investigation broadens the investigation into the issues we have raised by addressing the following research questions. Does digitalization affect the ability of a company to survive? (RQ1). Do learning orientation, absorptive capacity, and resilience impact digitalization? (RQ2). Are there any relationships between learning orientation, absorptive capacity, and resilience with the survival

of a business? (RQ3). Does digitalization mediate the influence of learning orientation, absorptive capacity, and resilience on business survival? (RQ4).

This research is structured to answer the research questions and achieve the stated objectives. First, the theoretical framework applied in this research is described. Then, from this theoretical framework, a series of hypotheses are formulated that describe the research model. A sample of companies on which a questionnaire will be collected will then be selected to finally report our scope and discuss their implications based on the sample of 600 companies. Finally, future research lines and the limitations of this work will be presented.

5.4 The Results of Digitalization on Business Survival.

5.4.1 What does the Data Reveal? Exploring the Dataset.

Table 11 reveals that the results derived from the survey respondents, which include business owners and top-level management, exhibit a proportional distribution with respect to gender.

Table 11. Sample Features of the Sample.

	Category	Frequency (N)	Percentage (%)
Respondent Gender	Female	292	60%
	Male	191	40%
Respondent Age	[20-30]	63	13%
	[31-40]	153	32%
	[41-50]	167	35%
	[51-60]	75	16%
	>61	25	5%
Sector	Agriculture	14	3%
	Building	53	11%
	Industrial	89	18%
	Services	327	68%
Firm Age	[1-4]	44	9%
	[5-8]	77	16%
	[9-14]	114	24%
	[15-20]	102	21%
	>21	146	30%
Firm size (Employees)	[1-10]	181	30%
	[11-50]	104	17%
	[51-250]	136	23%
	>250	179	30%

In addition, the age distribution of the participants ranges primarily from 31 to 50 years. In particular, the gender representation is adequately balanced. In

particular, we have obtained data from firms of various ages and sizes, a critical aspect that supports our future conclusions.

5.4.2 Assessment Measurement Model.Survival mediators and facilitators.

The present model encompasses three artifacts or constructed concepts: absorptive capacity, learning orientation, and resilience. These three constructs directly impact two closely related endogenous variables, namely digitalization and business survival, controlled by the size of the business and the economic sector.

Following the theoretical approach established by Henseler (2017), constructs in the realm of social science, such as business organization, are frequently regarded as forged concepts. Given this conceptualization, it is reasonable to expect intercorrelations between the indicators associated with these constructs. Given all of this, we used correlation weights as a methodical approach to assessing these components, particularly in the context of Mode A, as proposed by Rigdon (2016). This approach allows for a more robust and accurate representation of the underlying relationships among the constructs in the model (Henseler, 2021).

According to the theoretical framework proposed by Hair et al. (2022), we conducted an analysis of the loadings of the indicators and dimensions, specifically focusing on the lower-order components. Most of these loadings were found to be greater than 0.7, as presented in Table 12. Then, we assessed the internal consistency and reliability of the constructs using composite reliability (CR). According to this, we found that the constructs had CR values higher than the threshold of 0.7, indicating good reliability levels (Table 12). We used the extracted average variance (AVE) to test the convergent validity and found that all constructs with AVE values greater than 0.5 had convergent validity.

Table 12. Results of the Measurement Model of Internal Drivers.

Construct / Item		Weight	Loading	CR	AVE
	Absorptive capacity (CA)			0.925	0.642
CA1	Exchange of information and experience	0.172	0.823		
CA2	New hires to acquire experience from outside the organization	0.159	0.833		
CA3	Use of technologies to boost information	0.157	0.817		
CA4	Technologies to implement newly acquired knowledge	0.151	0.843		
CA5	Spreading of knowledge through the organization	0.131	0.728		
CA6	Interplay of personnel between organizational levels	0.182	0.772		
CA7	Absorption of Competencies	0.126	0.749		
CA8	Technological absorptive capacity	0.168	0.837		
	Resilience (RE)			0.888	0.529
RE1	Easiness to react to problems	0.136	0.682		
RE2	Environmental adaptation	0.148	0.621		
RE3	Customer satisfaction	0.158	0.779		
RE4	Adaptation to Demand Breakdowns	0.152	0.802		
RE5	Cash Accommodation	0.170	0.825		
RE6	Accommodation to customer needs	0.148	0.762		
RE7	Easiness to accommodate labor issues	0.138	0.732		
RE8	Process Regeneration	0.175	0.727		
RE9	COVID recovery	0.155	0.576		
	Learning Orientation (LO)			0.972	0.794
LO1	Openness to Challenges	0.149	0.858		
LO2	Acceptance of opportunities to develop new skills and knowledge.	0.135	0.910		
LO3	Like for challenging assignments at work.	0.139	0.892		
LO4	Training and learning acceptance	0.125	0.891		
LO5	Technology compromise	0.205	0.902		
LO6	Organizational openness to new learnings	0.198	0.889		
LO7	Learning-friendly organization	0.173	0.893		
	Digitalization (DI)			0.927	0.732
DI1	Acceptance of Technological Innovations	0.189	0.880		
DI2	Digitalization of business processes	0.191	0.879		
DI3	Digital channels	0.199	0.887		
DI4	Digitalization of customer channels	0.193	0.850		
DI5	Automated business core services	0.201	0.801		
DI6	Technological added value	0.196	0.834		
	Survival (SU)			0.902	0.528
SU1	Surviving from COVID	0.134	0.705		
SU2	Well-positioned to cope with future crises.	0.163	0.786		
SU3	COVID gives us a challenging position	0.149	0.773		
SU4	The sales decline due to COVID boosted us to cope with the future crisis.	0.081	0.433		
SU5	Digitalization helps us overcome a crisis.	0.176	0.827		
SU6	Digitalization increases workforce productivity	0.170	0.806		
SU7	Digital outsourcing consulting enforces our long-term orientation	0.176	0.772		
SU8	Digitalization and consulting avoid crisis	0.181	0.793		
SU9	Business longevity is at the forefront, rather than profits.	0.119	0.541		
SU10	We are ready to overcome any crisis.	0.134	0.705		

CR: Composite Reliability; AVE: Average variation extracted.

Discriminant validity was assessed using two criteria. First, we applied the Fornell-Larcker criterion (Fornell & Larcker, 1981): this measure determines the distinctiveness of the constructs in terms of uniqueness. Second, we analyzed discriminant validity using the heterotrait-monotrait (HTMT) ratio (Henseler, Ringle & Sarstedt, 2015). This criterion is used as an alternative measure due to the criticism received by the Fornell-Lacker criterion, as it is based on estimates of consistent factor loadings. Table 13 shows that the square root of the AVE of each construct is higher than the predicted correlation values, demonstrating the discriminant validity of the constructs.

Table 13. Discriminant Validity of Internal Drivers. Fornell-Lacker (FL) and HTMT*.

	CA	DI	LO	RE	SU
Absorptive capacity	**0.801**	*0.526*	*0.403*	*0.534*	*0.682*
Digitalization	0.495	**0.856**	*0.406*	*0.744*	*0.791*
Learning Orientation	0.388	0.395	**0.891**	*0.400*	*0.371*
Resilience	0.489	0.678	0.380	**0.727**	*0.797*
Survival	0.633	0.725	0.364	0.707	**0.727**

*FL values under principal diagonal matrix elements / HTMT values above principal diagonal matrix elements

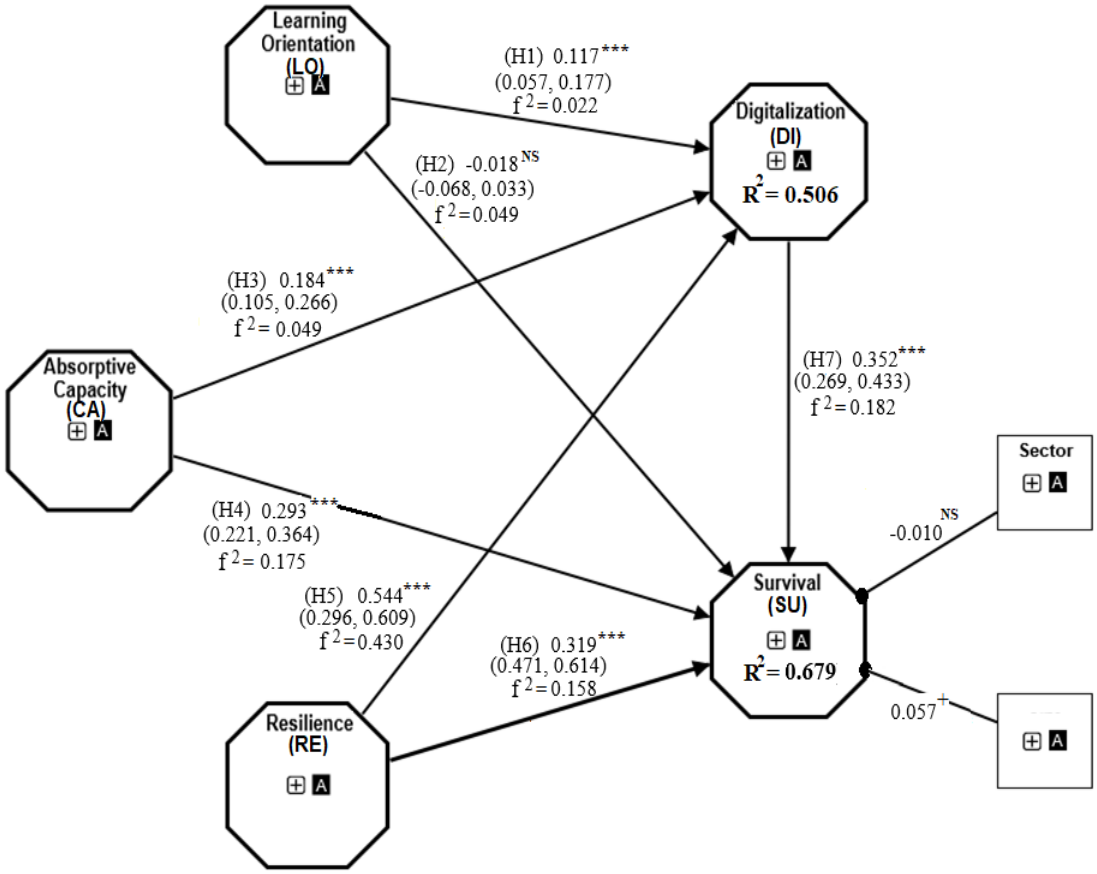
5.4.3 Assessing the Structural Model.

We investigated the possibility of multicollinearity among the antecedent variables of endogenous constructs by examining the variance inflation factor (VIF) values, which ranged from 1.002 to 2.111, indicating no evidence of multicollinearity in our structural model (Hair et al., 2022).

To investigate potential nonlinear relationships between antecedent variables and dependent constructs, we incorporated interaction terms to represent the quadratic effects of each antecedent variable on each dependent construct (Sarstedt et al., 2020). Bootstrapping with 10,000 samples was used to estimate the significance of the quadratic effects.

The results suggest that the linear effects model was robust, with none of the quadratic effects found to be statistically significant. We used bootstrapping with 10,000 samples to estimate the significance of the direct effects of

antecedent variables on dependent constructs. Our analysis revealed that five of the six direct effects were significant, while we did not observe a significant relationship in the direct effect of LO on SU (H2) (Figure 11).



Note(s)

Hypothesys . *** p<0.001, NS: non-significant (based on t(9999), one-tailed test.
Control Variables. + p<0.001, NS. non-significant (based on t(9999), two-tailed test.

Figure 10 Internal Drivers´ Results of the Structural Research Model on Survival.

The signs, magnitudes, significance levels, and R2 values of the path coefficients for the variables are shown in Table 15. The p-values, t-statistics, and confidence intervals were calculated using bootstrapping (10,000 samples). The direct effect of LO (H2) on SU was not significant, although six of the seven direct effects were significant (Figure 10). Since the lowest coefficient of determination (R2) obtained for DI is 0.506, the predictive ability of the dependent variables in the sample was satisfactory (Figure 10). A good level of explanatory power was also achieved using SU, with an R-square of 0.678. Using a confirmatory

perspective (Hair et al., 2019), we applied the Gaussian copula approach (Hult et al., 2018) to assess the potential presence of endogeneity problems in a complex regression model in which SU was regressed in CA, LO and RE (see Table 14).

Table 14. Nonnormality Tests and the Gaussian Copula Approach.

	Shapiro-Wilk		**Anderson-Darlin**	
	W	p-value	A	p-value
CA	0.949	0.000	5.537	0.000
LO	0.896	0.000	17.13	0.000
RE	0.972	0.000	2.572	0.000
	β		p-value	
GC_{CA}	-0.055		0.499	
GC_{LO}	-0.007		0.195	
GC_{RE}	0.046		0.385	

Note(s): GCCA Gaussian copula term for CA. GCLO Gaussian copula term for CA. GC_{RE} Gaussian copula term for RE.

Table 15. Direct Effects on Endogenous Variables.

	Direct effect	**t-value**	**p-value**	**PBCI**	**Support**	**Explained Variance**	**f^2**
DIGITALIZATION (R^2 = 0.506)							
LO (H1)	0.117	3.241	0.001	(0.057, 0.177)	Yes	4.6%	0.022
CA (H3)	0.184	3.766	0.000	(0.105, 0.266)	Yes	9.1%	0.049
RE (H5)	0.544	12.517	0.000	(0.296, 0.609)	Yes	36.9%	0.430
SURVIVAL (R^2 = 0.679)							
LO (H2)	-0.018	0.592	0.277	(-0.068, 0.033)	No	-0.7%	0.049
CA (H4)	0.293	6.665	0.000	(0.221, 0.364)	Yes	18.5%	0.175
RE (H6)	0.319	6.883	0.000	(0.471, 0.614)	Yes	22.6%	0.158
DI (H7)	0.352	7.049	0.000	(0.269, 0.433)	Yes	25.6%	0.182
SECTOR	-0.010	0.142	0.443	(0.068, 0.142)	No	-0.4%	0.000
SIZE	0.057	2.095	0.000	(0.011, 0.100)	Yes	2.0%	0.008

Note(s): The hypothesized effects are evaluated using a one-tailed test for a Student t distribution (CI 90%). The effect of the control variables is assessed by applying a two-tailed test (CI 95%)

First, we checked whether the antecedent variables had a nonnormal distribution, which the Gaussian copula technique requires to detect endogeneity issues. Shapiro-Wilk and Anderson-Darling tests (Becker et al., 2022) indicated that the distributions of CA, LO, and SU were not normal ($p < 0.05$).

Next, we performed a Gaussian copula analysis using SmartPLS 4 and found that none of the copula terms was statistically significant at the 5% level.

Therefore, we conclude that the PLS-SEM results are robust and remain significantly unaffected by potential endogeneity issues. These issues could arise due to omitted constructs that may correlate with one or more predictor constructs and SU. After establishing evidence for the causality of the model, we tested the mediation hypotheses (H8-H10) according to the methodology prescribed by Nitzl et al. (2016). Our analysis involved an assessment of the overall, direct, and indirect impact of CA, LO, and RE on SU while controlling for sector and size variables. We performed a bootstrapping routine of 10,000 samples, employing percentile confidence intervals to test for indirect effects.

Table 16. Summary of mediating effect tests

	Direct effect	**t-value**	**p-value**	**PBCI**	**Support**	**Explained Variance**
H2: LO -> SU	-0.018	0.592	0.277	(-0.068, 0.033)	No	
H4: CA -> SU	0.293	6.665	0.000	(0.221, 0.364)	Yes	18.5%
H6: RE -> SU	0.319	6.883	0.000	(0.471, 0.614)	Yes	22.6%
	Indirect Effect	**t-value**	**p-value**	**PBCI**	**Support**	
H8: LO -> DI -> SU	0.041	3.010	0.001	(0.019, 0.065)	Yes	
H9: CA -> DI -> SU	0.065	3.345	0.000	(0.035, 0.098)	Yes	
H10: RE -> DI -> SU	0.192	5.872	0.000	(0.140, 0.247)	Yes	
	Total effect	**t-value**	**p-value**	**PBCI**	**Support**	
LO -> SU	0.023	8.155	0.241	(-0.030, 0.077)	No	
CA -> SU	0.358	0.702	0.000	(0.285, 0.428)	Yes	
RE -> SU	0.511	12.8	0.000	(0.445, 0.576)	Yes	

Note(s): Total, direct, and indirect effects are estimated considering the sector and size as control variables in SU. PBCI: Percentile bootstrap confidence interval. Bootstrapping based on n=10.000 subsamples. Mediating effects are assessed by applying a one-tailed test.

All indirect effects of CA, LO, and RE on SU were statistically significant at a given significance level. This finding provides evidence to support hypotheses H8, H9, and H10. Furthermore, the analysis revealed that DI significantly mediated the relationship between the antecedent variables and SU.

5.4.4 Multiple Necessary Condition Analysis.

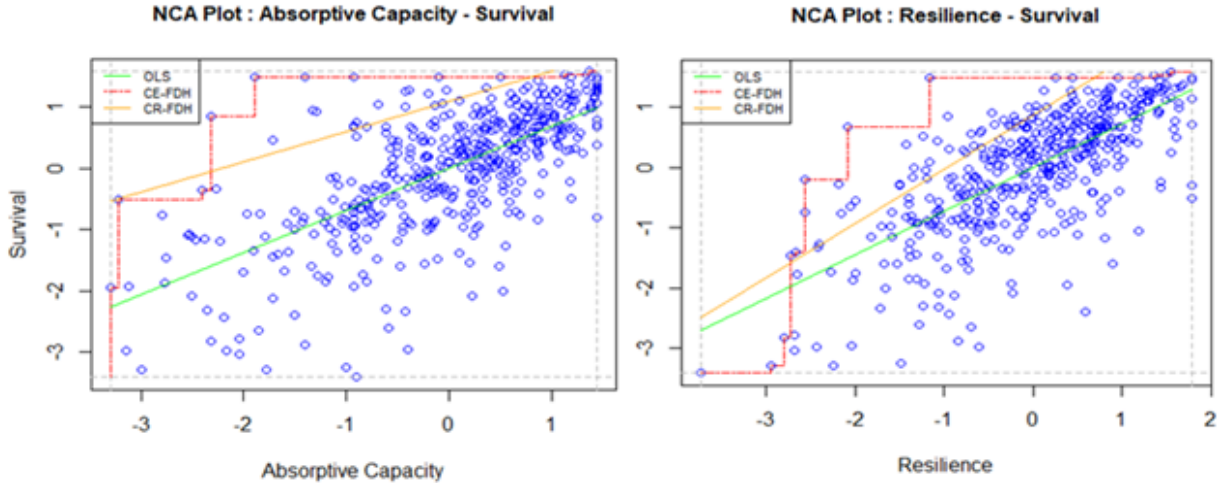
Moving further into exploring how business survivability relates to the attributes of digitalization, a necessary condition analysis (NCA) (Dul, 2016) was used to complement the PLS-SEM analysis. We used the latent-variable scores obtained using PLS-SEM as a starting point for NCA. These scores were loaded

into R software following the steps described in the quick start guide to run NCA (Dul, 2016).

NCA analysis is essentially bivariate as it does not depend on the requirement of other variables, unlike PLS-SEM analysis, which enables many dependencies in a path model. As a result, a path model may be compromised if many endogenous constructs are affected. In this way, we conduct various NCA tests for every endogenous construct (Richter et al., 2020). Table 17 shows the effect size (d) for CE_FDH and CR_FDH and their significance. The effect size (d) is the area of the CE_FDH line, divided by the scope: d = C/S, and can achieve values between 0 and 1. The NCA statistical test estimates the p-value of the effect size (Dul, 2016; Dul et al., 2020).The NCA results (see Table 17) state that absorptive capacity, learning orientation, and resilience are all necessary conditions for business survival (d ≥ 0.1) and significant conditions (p < 0.05) necessary conditions for survival. Surprisingly, despite the results obtained in the PLS-SEM analysis, we found that digitization is not considered a necessary condition for survival.

Table 17. Effect Size of Internal Variables.

	Abs. Inefficiency	CE_FDH	p-value	Abs. Inefficiency	CR_FDH	p-value
Absorptive.Capacity	7.21	0.116	0.000	14.59	0.191	0.000
Digitalization	24.75	0.018	0.811	24.74	0.067	0.850
Learning.Orientation	7.08	0.258	0.000	15.21	0.110	0.000
Resilience	1.15	0.268	0.000	9.11	0.118	0.000
Size	4.99	0.018	0.082	4.98	0.012	0.082



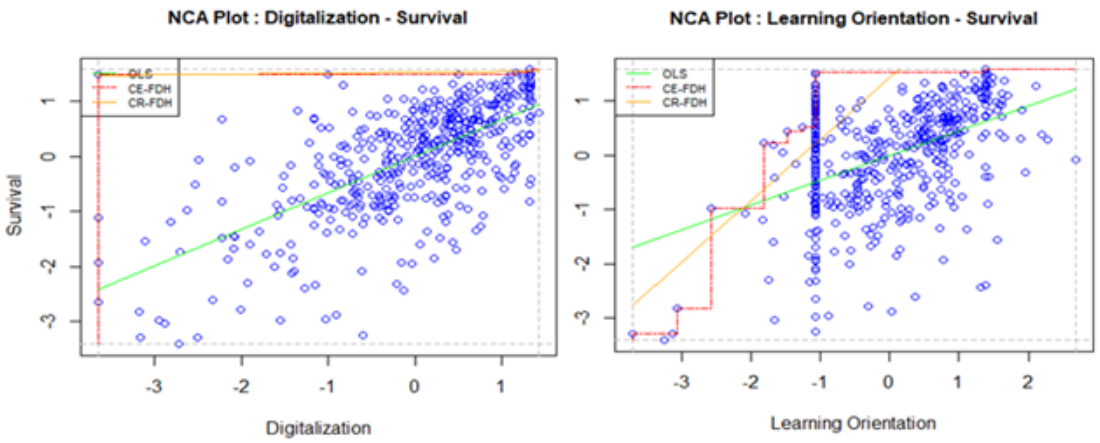


Figure 11 NCA plot of LO, CA, RE, and DI in SU.

Given that our theoretical justification for digitalization is that it is essential for survival, we need to reassess this result because the insufficient literature supports it. We can see the likely outliers from the digitalization scatter plot in Figure 11. Outliers can dramatically influence the size of the effect. Considering that the effect size is the area of the CE_FDH line, divided by the scope: d = C/S, an outlier can significantly reduce this value to affect the ceiling zone (C) or the scope (S). Since there is no rigorous and scientific way to examine outliers, the standard method is visually inspecting the scatter plot. NCA software 3.2.0 (Dul, 2022). We evaluated the potential existence of outliers. As can be seen in the scatter plot (figure 12), there exist outliers that are altering the area of the CE_FDH line, reducing the effect size (d) under the threshold that gives us a non-necessary condition when according to the literature, digitalization is a proxy of survival.

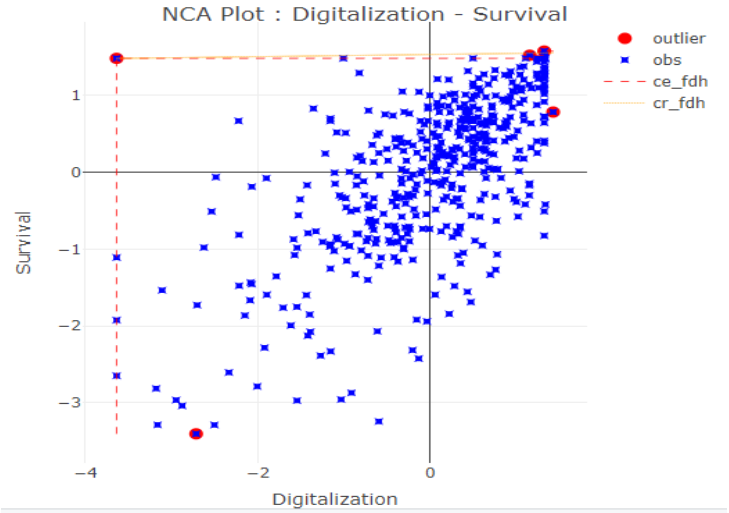


Figure 12 NCA Plot Analysis of Outliers of DI on SU.

Using NCA software, we erased this outlier, reevaluating the analysis whose result can be seen in Figure 13.

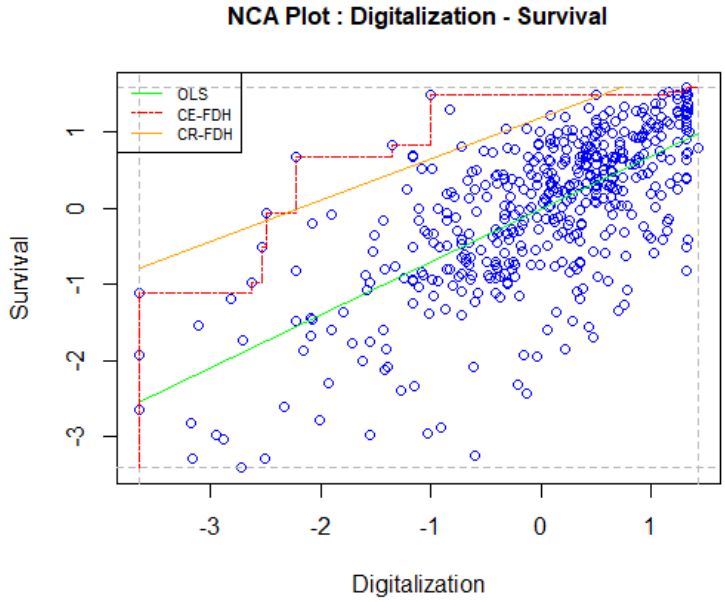


Figure 13 NCA Plot of DI in SU after Removing Outliers.

After removing the outlier from our data analysis, we observed an effect size of 0.188, indicating that digitalization is a crucial factor for survival. This finding highlights the importance of performing an outlier analysis in this type of research, as ignoring this issue could lead to contradictory results. Additionally, we performed a bottleneck analysis using tables to evaluate each necessary condition in detail.

Table 18. Bottleneck SURVIVAL

	Absorptive capacity	Digitalization	Learning Orientation	Resilience
0	NN	NN	NN	NN
10	NN	NN	NN	NN
20	NN	NN	0.207	0.207
30	NN	NN	0.828	0.207
40	NN	NN	1.035	2.070
50	NN	NN	1.242	4.762
60	0.828	13.600	2.899	7.660
70	4.969	31.700	3.934	18.219
80	13.251	49.800	31.056	34.990
90	42.650	67.800	40.787	55.072
100	84.058	85.900	51.346	77.226

NN.: Not Necessary

Table 18 shows that to achieve a survival rate of 60%, four prerequisites must be met: absorptive capacity must be at least 0.82%, learning orientation must be at least 2.89%, resilience must be at least 7.66%, and digitalization must be at least 13.60%. Although all factors appear significant, digitalization and resilience are of utmost importance.

5.5 Discussion about the Role of Digitalization on Survival.

This study aimed to analyze digitalization as an explanatory and mediator variable of business survival. The existing literature establishes learning orientation, knowledge absorption capacity, and resilience as explanatory variables of digitalization (Calantone et al., 2002; Cohen & Levinthal, 1990; Marino-Romero et al., 2022; Zhang et al., 2021). Taking these premises as a starting point, we analyzed whether these variables were equally explanatory of survival as digitalization. The importance of studying this question lies in the extension of the model proposed in the literature which is more far-reaching than the original one. It would imply accepting the above three variables as mediators of digitization and business longevity.

Digitalization and subsequent digitalization of specific processes can enhance business survival, facilitating its adaptation to its sector's strategic and technological changes (Ghobakhloo & Fathi, 2020). This digitalization process will be more easily developed if the company has better skills to integrate these technological capabilities into its operations.

Digitalization can be conceptualized as a process conducive to survival (Audretsch & Mahmood, 1995). In our research, through a PLS analysis and necessary condition analysis, we reached different outcomes related to digitalization, survival, and the size of the companies.

Our study, which covers all the economic sectors represented in the economy, endorses the traditional model, which states that learning orientation (LO), knowledge absorption capacity (CA), and business resilience (RE) are explanatory factors of digitalization. Confirmation of our hypotheses H1, H3, and

H5, with significance below 0.01, confirms this. We have also confirmed the hypothesis that digitalization is an explanatory variable for business survival.

Our research advances the model proposed by extension of the previous hypotheses to business survival. The above variables (LO, CA, and RE) are not only explanatory variables of digitalization but also constitute a proxy for the explanation of longevity in firms. Our model confirms that CA and RE represent explanatory variables of organizational survival (H2 and H5), both significant. This is not the case for LO, which, although considered a significant variable for explaining the digitalization variable, is not significant for survival. The reason for this is that although learning-oriented companies seek through digitization (H1) a greater knowledge of their environment (customers, suppliers, production processes,...) (Calantone et al., 2002), this orientation does not always culminate in survival because the result of this orientation does not always have to be successful, unlike the absorptive capacity, which always is.

The difference is that one process is a priori (orientation) and the other process is a posteriori (absorption), so the latter is guaranteed to be successful because the company will not import an unproven technological process, while learning is a riskier process. Organizational resilience was another of the factors analyzed in this research. We consider that the company must have the learning absorptive capacity and orientation and that once it has achieved the knowledge to implement it into the organization, it must also want to do it. Resistance to change, as a lack of resilience or adaptation, can delay decision-making processes or the adoption of specific technologies, failing strategic policies, and, therefore, in the company's survivability. After the previous considerations and according to our research, resilience, and digitalization are the necessary primary conditions for business survival in turbulent times.

Size matters when considering survival and digitalization. Our research concludes a positive and significant relationship between business size, survival, and digitization. Furthermore, the study of this variable through its indirect effects on resilience shows that the effect of digitization on business survival is more remarkable when this relationship depends on the company's resilience.

Therefore, when companies have resilience, the effects of digitization and business survival are more extraordinary, as shown in the analysis of the indirect effects represented by a thicker line in Figure 13.

The study of the necessary condition also supports the previous conclusions made by analyzing indirect effects. It confirms the importance of resilience as an explanatory factor for survival and also confirms digitization as a necessary condition.

CHAPTER 6.
External Drivers.
Consultancy and Institutional Pressure.

6.1 Consultancy as Driver of Digitalization and Performance.

Digitalization has channeled business processes in such a way that many of the activities that exist today are being approached differently than they were years ago, and, of course, will no longer have anything to do with the business processes of the future. Rarely do we see such a remarkable change in business management practices as we have seen in recent times, where digitalization has confronted organizations with huge challenges and opportunities (Kagermann, 2015; Legner et al., 2017). These changes have been supported by internal and external factors within the firm that have ultimately boosted the digital transformation of businesses.

Over the years, digitalization has become more of a necessity than a possibility. Most of the underlying determinants of digitization come from internal organizational factors (speed of product launches, speed of decision-making, speed of supply chain, etc.). (Bharadwaj et al., 2013), however, sometimes the reasons for digitization are external and imposed and go through the hands of intermediaries. What are some of the external forces that have driven the deployment of digitization throughout organizations?

This chapter follows the theoretical view of one of the most celebrated works on the spread of innovation and organizational digitalization. We adapt Roger´s (1995) view to expose that digitization and innovation come from different origins. There are three types of forces at work: (1) individual, (2) collective, (3) and coercive.

If the adoption decision is individual or optional, people are free to take it or ignore it. When an organization decides to adopt the digitization process, the decision-making process is collective in nature, with no more individual voluntariness. When the adoption is finally made by the authority, the innovation is imposed on the organization. This last innovation and digitalization adoption mechanism by the company is precisely what we describe as institutional pressure.

In tune with this reasoning, we find that many companies lack the resources to create or develop innovation processes or investments in research, so the spread of digitization in many cases goes through the hands of consulting firms. Professional services firms (PSFs) play an important role in this triggering commitment. From this leading position, PSFs could stand out as a fundamental external element for small-firm digital transformation (SFDT), which supports the belief that they are drivers and facilitators of the digitization of companies.

In summarizing, we could state that institutional pressure could be considered as one of these external reasons for SFDT (Liang et al., 2007) in which consulting might play a remarkable role in prompting that engagement, giving support to the belief of being drivers and enablers for SFDT and ultimately for better performance.

The theoretical motivation of this study, therefore, is to provide a more complete account of how mentioned external forces interact to create digital structures embedded in organizations. Our resulting insights contribute to a theory of the knowledge-based digitalization process and to understanding how institutional pressure has contributed to the spread of SFDT with the help of consultancy. This problem statement has been cited recently in the literature as an opportunity for future research, representing a contribution to the research question of what variables moderate the relationship between digital transformation and performance (Verhoef et al., 2021).

This research chapter answers several research questions:

RQ1: Could coercive measures from outside the organization boost digital transformation?

RQ2: What is the role of consulting companies, as knowledge-intensive providers, in digitalization?

RQ3: Are consultancy and institutional pressure boosters for digitalization and, therefore, for performance?

6.2 PSF and KIBs' Role of Intermediaries in Digitalization.

Digital transformation is a complex process that is deeply embedded in the business environment and covers multiple areas such as learning capacity, absorptive capacity, financial resources, and human capital capabilities (Teece & Pisano, 1994; Zahra & George, 2002).

Although the adoption of technological advancements is frequently viewed as a planned strategic decision, it is important to remember that, in many cases, digitalization is imposed rather than chosen. Electronic invoicing (e-invoicing), electronic procurement (e-procurement), and electronic tax filing (tax e-filing) all exhibit this coercive tendency (Mignerat & Rivard, 2016; Silic & Back, 2014).

The digital gap between businesses contributes to the difficulties of digital transformation, making it a serious subject worthy of study consideration. The intermediary companies frequently assist digitalization transmission by serving as conduits for technology acceptance and implementation (Howells, 2006).

Many of the existing companies reach innovation and digitalization through third parties. Companies suffer from a lack of sufficient resources to successfully face digitalization processes, so many organizations get assistance from consulting and external professional services to successfully develop digital transformation processes. (Legner et al., 2017; Lessard & Okakwu, 2016).

Therefore, this paper proposes to address the research question: what interrelationship does institutional pressure and consulting play on digitalization at the company, and what consequence does it have on the company's performance?

In a rapidly changing world, digital transformation and innovation are value-generating resources (Ostrom et al., 2015), but their adoption and development it is not without obstacles. Additionally, intermediaries can serve as mediators between technology suppliers and users, reducing information

asymmetry and transaction costs, both of which are frequently identified as impediments to digitalization. They can also provide particular experiences and resources that the organization may be lacking, allowing for more effective and efficient digitization.

Consultancy companies play the role of intermediaries in the transfer of digitalization (Howells, 2006). When we use the term 'service intermediaries', we refer to professional service firms (PSF) that provide support in the adoption and development of technological services (e.g. e-commerce, technology services, ERP software development, digitalization of back-office services, etc.).

PSFs, sometimes also referred to as knowledge-intensive businesses (KIBS) (Miles et al., 1995), knowledge-intensive firms (KIF) (Starbuck, 1992), or knowledge-based organizations (KbO) (Winch & Schneider, 1993), are management consulting firms such as accountants, law firms, advertising agencies, engineering firms, IT firms, etc. whose objective is to transform knowledge into value for its clients by improving the cost-efficiency of developing digitalization themselves.

PSF and KIBS have been seen to promote and ramp up digitalization among clients. In this sense, PSF-KIBS supports and raises changes in client organizations to staple performance throughout digitalization. From this starting position, PSF-KIBS could be highlighted as a core tenet for Small Firms' digital transformation (SFDT), giving support to the belief of being not only drivers and facilitators for businesses' digitalization but also coproducers of business digital transformation (Hertog, 2000).

In conclusion, the role of intermediaries in the transmission of digitalization is multifaceted and important, serving as both facilitators and catalysts in enterprises' digital transformation journeys.

Table 19. Summary of Terms and Studies Examining Intermediaries' Role

Activity	Study	Role
Accounting and consulting	(Fischer, 2011)	Improving alertness and recognition of opportunities
	(Cassia & Magno, 2021)	Accessing professional content from external sources increases credibility and service quality.
	(Gabbianelli & Pencarelli, 2020)	Improve marketing and communication activities.
Agriculture	(Peón & Martínez-Filgueira, 2020)	Entering new market niches. A window of opportunity and growth
Architecture and Engineering	(Tether et al., 2012)	Producing and coordinating complex integrated services. Project-based Firms (PbF)
	(Kivimaa & Martiskainen, 2018)	Facilitating innovation processes and creating new opportunities.
Transport	(Gomes et al., 2021)	Increasing market size and economic activity throughout territorial servitization.
	(Jacobs et al., 2016)	Spawning successful entrepreneurship.
Public Policies	(Mas-Tur & Ribeiro Soriano, 2014)	Providing financial support, technical assistance, and consulting services.
Publishing	(Magadán-Díaz & Rivas-García, 2021)	Boosting Digital Transformation, Modernization, and Competitive Improvement
Oil and Gas Sector	(Mohan et al., 2021)	Improving information asymmetries, financial support, appropriate skills, and collaboration with R&D institutions.
Tourism	(Borodako et al., 2015)	Improving Competition and Expertise
	(Álvarez-González & González-Morales, 2014)	Increasing productivity by a combination of tacit and codified knowledge,

Term	Study	Definition
PSF Professional Service Firms	(Maister, 1982)	A firm where the service delivered is a customized asset where diagnosis and process are key features.
KIF Knowledge Intensive Firms	(Starbuck, 1992)	Firms where knowledge is of greater importance than other assets.
KIBS Knowledge-Intensive Business Services	(I. Miles et al., 1995)	Services that rely on professional services, with employment of structures heavily weighted towards scientists, engineers, and experts,… and that have as their main clients other businesses
PbF Project-based firms	(Gann & Salter, 2000)	Firms producing complex integrated systems or knowledge-intensive services on the order of their clients (construction, films,…)
T-KIBS Traditional-KIBS	(Miles et al., 2019)	Firms where services can be classified as traditional professional services (business and management services, legal accounting and activities, market research, etc...)
P-KIBS Professional KIBS	(Miles et al., 2019)	Firms where services are mainly related to information and communication technologies as well as technical activities (IT-related services, engineering, R&D consulting, etc.)
UTTO University technology transfer offices	Markman(Markman et al., 2005), Phan, Balkin, & Gianiodis, (2005)	Universities function as 'technology intermediaries' that transmit technological innovations from the lab bench to industry.

6.3 Hypothesis development. From Digitalization to Performance.

External forces have been recognized in the literature as a trigger for company decision-making and performance. The basis of our theoretical framework is twofold: institutional theory and the influence of institutional pressure and consultancy on digitalization and firm performance.

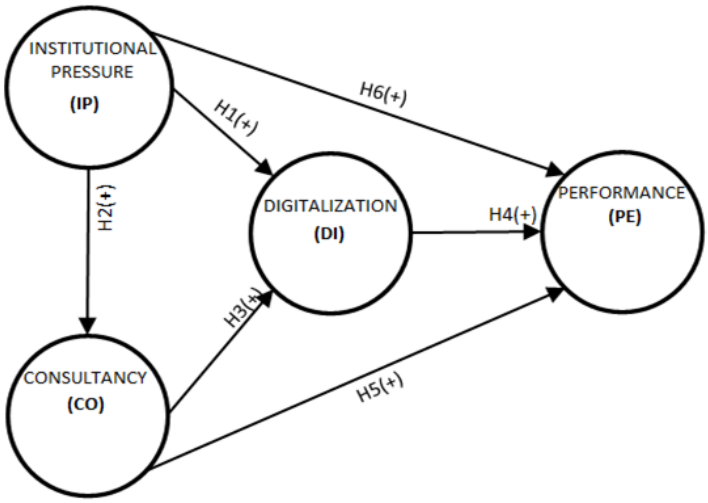


Figure 14 Proposed Structural Equation Model of External Drivers.

Hypothesis 1 (H1). Institutional Pressure is positively related to Digitalization.

The digital transformation of the firm, as a consequence of institutional pressure, can arise as a result of different sources: government regulations, professional organizations, international standards, etc. (Kuo et al., 2021; Liang et al., 2007). This can be made explicit, for example, in the case of Spain, with the mandatory implementation of digital certificates for companies, the filing of tax returns only in electronic format, the communication of workers' registrations and cancellations to the Social Security electronically, and many other compulsory procedures introduced by the European Union (such is the case of e-procurement, whereby companies can only bid for certain public tenders digitally, forcing them to transform all their structures and processes (Hardy & Williams, 2008)). Based on this, our approach to the problem lies in whether the

adoption of the digital transformations, that have been mandatorily implemented by the Public Sector, has positively promoted digitalization.

Hypothesis 2 (H2). Institutional pressure is positively related to consulting.

Knowledge-based intermediaries, such as KIBS, T-KIBS, PSF, or any of the transmitters mentioned in Table 19, could reinforce the positive relationship between institutional pressure (especially coercive pressure) and digitalization. (Jiao et al., 2021). The institutional pressure of the Public Administration on certain companies to adopt certain technologies has meant that many small companies have had to seek the help of consultants to facilitate the adoption, and in some cases, the implementation, of digital processes previously carried out in an analogous way. A range of obstacles are then faced by small firms on their way to digitalization, such as lack of capital; poor management skills; and difficulties in obtaining the technical information and the know-how needed for innovation projects (Kleinknecht, 1989). In this sense, consulting firms act as activators of digitalization. Most of these consultancy firms are knowledge-intensive companies that transfer and implement digital transformations in companies that, due to a lack of resources, would not be able to develop them on their own (Muller & Zenker, 2001).

Hypothesis 3 (H3). Consultancy is positively related to digitalization.

The role of consulting firms in knowledge transfer and company digital transformation is a well-known topic. The literature suggests that consulting firms support companies in their digital transformation processes more efficiently, which saves implementation costs and reduces the risk of failure (Benassi & Di Minin, 2009; Bessant & Rush, 1995; Howells, 2006). The management of digital transformation in the company by intermediaries is a value generator, improving the company's performance, and developing relationships, trust, and goodwill (Howells, 2006; Oesterle et al., 2016). According to these precedents, we

propose that the role of consultancy represents a catalytic activity that has a direct effect on the digitalization of the firm.

Hypothesis 4 (H4). Digitalization is positively related to performance.

There exists a usually good correlation between digitization and business performance. The process of digitalization has the potential to enhance productivity (Pirvulescu & Enevoldsen, 2019), increase customer (Castagna et al., 2020), and facilitate data-driven decision-making (Nuccio & Guerzoni, 2019). Research from empirical studies shows that companies that successfully implement and integrate technological advances into their operations tend to achieve higher levels of profitability compared to those who fail to do so (Chen et al., 2016; Pap et al., 2022). Nevertheless, as digital transformation requires specific organizational structures that sometimes come at a considerable cost to SMEs, consulting reduces the barriers to digitalization (Ferreira et al., 2019; Horváth & Szabó, 2019).

Hypothesis 5 (H5). Consultancy is positively related to performance.

The field of resource management of consulting's impact on performance is one that has received a lot of attention and research. The implementation of enterprise resource planning systems (ERP) (Asprion et al., 2018; Ko et al., 2005), customer relationship management systems (CRM) (Galera-Zarco et al., 2020; Krizanic et al., 2019), recruiting procedures (Buettner & Timm, 2018), and other similar operations are examples of the kinds of tasks that many businesses prefer to externalize and therefore contract out. Outsourcing of these services through PSF and KIBS facilitates better monitoring and control of these strategic policies, enabling improved performance. (Greenwood, 2007). This leads us to the conclusion that the provision of consulting services within an organization is associated positively with increased levels of performance.

Hypothesis 6 (H6). Institutional pressure is positively related to performance.

Institutional pressure on competitive advantage and business performance has been frequently researched in various fields: waste management (Gupta & Gupta, 2021), gender quotas (Atinc et al., 2021), corporate social responsibility (Zhu et al., 2016), ecological responsiveness (Colwell & Joshi, 2013), etc. In line with these research lines, the company's digitalization processes are frequently enforced by regulations, which means that the company has to rely on intermediaries to comply. Institutional pressure is a driver of digitalization in these cases, but does this proposition lead to the idea that institutional pressure could also be a driver of performance? Could certain coercive measures be perceived as helping to generate higher performance in the firm? Given the aforementioned, we hypothesize that institutional pressure improves performance.

6.4 Methodology for the Performance Assessment.

6.4.1 Sample and Data Collection for Performance Assessment.

A survey was conducted online. The survey was distributed to managers and business owners since the research focuses on consulting services' involvement in digitization and performance. Pre-testing and piloting (n=50) were part of the questionnaire creation to assess its efficacy before distribution.

Table 20. Sample of firms filtered by economic sector.

Sector \ Employees	[1 - 10]	[11 - 50]	[51 - 250]	More 250	Total
Agriculture, livestock, fisheries & forestry	5	6	12	12	35
Construction	13	18	19	38	88
Industry	16	23	31	32	102
Services	147	57	74	97	375
Total	181	104	136	179	600

The questionnaire was carried out by a professional research agency based in Spain with extensive experience in surveys conducted by computer-assisted inquiry. As a further test, the suitability of the respondents was analyzed (Atuahene-Gima & Ko, 2001) in order to assess the suitability of answering the questionnaire and the degree of decision-making within the firm. The response time of the questionnaire was also taken into account, rejecting all those who

answered in less than 9 minutes, as this was considered to be the minimum time necessary for an adequate reading and response.

There are 600 firms across various industries and sizes. 'Services' dominates the sector distribution. Except for the 'Services' sector, where 147 companies have 1 to 10 employees, other sectors have more than 250 employees. Companies with 51-250 people are fairly dispersed throughout all sectors, from 12 in Agriculture to 74 in Services.

6.4.2 Measures Analyzed for Performance Assessment.

The variables were constructs consisting of more elementary items or indicators, which were organized as linear relationships of their items. (Henseler et al., 2014). To measure the IP construct, this study adopts the institutional pressure theoretical view of Liang (2007), DiMaggio & Powell (1983), and Jiao (2021) which is based on voluntary and coercive pressures over the organization in the decision-making process.

Under this point of view, IP is measured, adapting its scales with seven questions, as a multidimensional composite shaped by three dimensions: mimetic, coercive, and normative pressures. Consequently, knowledge acquisition (consultancy) was measured by eight questions that were adapted from Huang & Li (2009) to measure the implementation of the best practices learned by KIBS to disseminate digitalization. This one was measured following Westerman, Bonnet, & McAfee (2015) adapting their scale to our research.

Finally, we measure the effect of digitalization on business performance according to Venkatraman & Ramanujam (1986). Respondents provided their perception of certain financial variables (sales, profits, market penetration,...). Although the use of subjective measures as a tool for assessing business performance is sometimes questioned in relation to its validity, many studies have already demonstrated the soundness of this approach (Bouwman et al., 2018;

Khin & Ho, 2019). All variables were assessed on a 7-point Likert scale, from total disagreement (1) to total agreement (7).

6.4.3 Data Analysis. Impact of External Pressures on Digitalization and Performance.

To examine and evaluate the proposed research questions, we used partial least squares structural equation modeling (PLS-SEM), which has become a progressively noticeable methodological approach in digitalization research (Bouwman et al., 2019). The SmartPLS 4 software package is applied to perform these analyses (Ringle et al., 2022). A two-step path was approached: first, on the one hand, it evaluated and validated the explanatory and predictive power of the formative structural model.

Subsequently, we tested mediating effects by measuring the strength of the indirect effects (Nitzl et al., 2016) to determine the size of the mediation and applying bootstrap to test the significance of the indirect effect. Finally, we employed the FIMIX-PLS technique, a tool for latent class recognition to assess unobserved heterogeneity and to find segments (Hair, Sarstedt, et al., 2016).

6.5 Results. Effects of Digitalization on Performance.

6.5.1 Common Method Bias Issues Test.

In this study, the collinearity assessment approach suggested by Kock (2015) was used to test and avoid the issue of common-method bias. We run the PLS Algorithm by treating each variable as a dependent variable to obtain the inner variance inflation factor (VIF) (Table 21).

Kock indicates that when VIF coefficients achieve a value higher than 3.3, there would be an indication of collinearity that would indicate that the model might be contaminated by CMB. Our model, with a maximum VIF of 2.41 can be considered free of CMB.

Table 21. Full Collinearity Sudy (VIF) of related constructs to Performance.

Variables	Consultancy	Digitalization	Performance	Inst.Pressure
VIF	2,22	2,41	1,87	2,14

6.5.2 Measurement Model Assessment.

The assessment of measurement models in Partial Least Squares Structural Equation Modeling (PLS-SEM) involves a series of essential procedures to guarantee the validity and reliability of the constructions. Multiple measures are frequently assessed, including factor loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha (Hair, 2014).

The values of individual item loadings, Cronbach's alpha, composite reliability (CR), and extracted average variance (AVE) were used to assess the reliability and validity of the constructs (Table 22). The reliability of the constructs was tested according to the criterion that external loadings should be equal to or greater than 0.70 and that loadings below 0.4 should be eliminated (Henseler et al., 2009), consequently, the individual item reliability was considered satisfactory.

The results show the validation of the reliability and validity of the construction. The measures used were Cronbach´s Alpha (Ca), RhoA, Composite reliability (CR), and Average variance extracted (AVE). The first three parameters show us the internal consistency of the constructs and that it will be right whenever items measuring a construct have similar loads. On the other hand, the AVE parameter lets us know about the existence of a unique underlying group (unidimensionality) (Henseler et al., 2009).

The model's validity was determined by the fact that the evaluation of the composite reliability (CR) and Cronbach's alpha values (Ca) for all constructs above the threshold of 0.80 were declared appropriate. These values were the ones that were taken into consideration when determining whether or not the model was accurate. (Hundleby & Nunnally, 1968). The average extracted variance (AVE) value exceeded the threshold value of 0.50 (Hair et al., 2010).

Table 22. Measurement model results of variables related to performance

Construct / Item		Weight	Ca	rho_A	CR	AVE
	Institutional Pressure (IP)		0,867	0,874	0,898	0,558
IP1	Our competitors have benefited greatly from the introduction of digital innovations in their companies.	0.188*				
IP2	Those companies in our sector that introduce digital innovations are seen by the market in a more satisfactory way.	0.205*				
IP3	The pressure from the Public Administration has led us to introduce digital transformations in our company.	0,154				
IP4	The sector in which we develop our business activity has forced us to introduce digital technologies.	0.181*				
IP5	The introduction of digital transformations into the company has been necessary to improve management processes with our suppliers.	0.224*				
IP6	Clients demand from our company the introduction of new technologies and digital developments.	0.196*				
	Consultancy (CO)		0,921	0,924	0,935	0,643
CA1	Integrating external consultants and professionals into the company facilitates innovation and digital transformation.	0.167*				
CA2	Outsourcing consulting services support more agile and efficient decision-making.	0.158*				
CA3	Consulting firms are good carriers of innovation and digitization from industry to company and from company to client.	0.164*				
CA4	Consulting firms help companies improve their production processes through the implementation of new technologies.	0.160*				
CA5	It would not have been possible to integrate technology efficiently in my company if not for the presence of external consultants.	0.131*				
CA6	Consultancy fees are largely offset by the advantages provided by their professional services.	0.165*				
CA7	The digital transformation of my company would not have been possible without external consulting.	0.132*				
CA8	Joint work with outside companies improves the company's internal production processes.	0.166*				
	Digitalization (DI)		0,903	0,905	0,923	0,632
DI1	We accept and easily adopt and adapt to technological innovations.	0.181*				
DI2	We are always looking for new opportunities to incorporate technology into our business processes.	0.168*				
DI3	We successfully commercialize and sell our products and services through digital channels.	0.160*				
DI4	We actively promote the use of digital channels to provide better customer service.	0.19*				
DI5	We have automated our core services (invoicing, accounting, customer support, ...).	0.173*				
DI6	We use digital technologies to enhance the added value of our products and services.	0.190*				
DI7	We have implemented a new business model based on digital technologies.	0.195*				
	Performance (PE)		0,938	0,938	0,948	0,697
PE1	We are very satisfied with the growth in sales in our firm.	0.152*				
PE2	The growth of earnings in our company is very positive.	0.146*				
PE3	Our company's market share in the sector is very satisfactory.	0.150*				
PE4	The time to market our products/services is very good.	0.158*				
PE5	Our market penetration rate is good.	0.148*				
PE6	The market value of our company is very satisfactory.	0.150*				
PE7	My company has very satisfactory profitability.	0.143*				
PE8	Our return on investment is very good.	0.151*				

Notes: Ca: Cronbach's Alpha CR: Composite reliability. AVE: Average variance extracted. *: significant at $p<0.05$

Furthermore, the proposed model achieves an adjusted R2 of values ranging between 0.44 and 0.49, so according to our results, there exist complete convergence validity and reliability findings for all constructs.

The discriminant validity was also assessed using the Fornell-Larcker criterion. This measure determines the differentiation of the construct in terms of singularity. However, due to the criticism received by the Fornell-Lacker criteria for assessing discriminant validity, since it is based on consistent factor loading estimates, HTMT was also used to test discriminant validity in the case of variance-based estimators (Henseler et al., 2014; Rönkkö & Evermann, 2013). Table 23 shows that the square root of the AVE of each construct is higher than the predicted correlation values, showing the discriminant validity of the construct included in the suggested measurement model. We also used discriminant validity analysis using the heterotrait-monotrait ratio of correlations (HTMT) relationship (Henseler et al., 2016). This ratio must have values below 0.85 (Gold et al., 2001) to ensure that discriminant validity is satisfied, as can be verified.

Table 23. Discriminant Validity of Constructs Related to Performance.

	Fornell-Lacker				Heterotrait-monotrait ratio of correlations (HTMT)			
	CO	**DI**	**PE**	**IP**	**CO**	**DI**	**PE**	**IP**
CONSULTANCY (CO)	**0,802**							
DIGITALIZATION (DI)	0,632	**0,795**			0,688			
PERFORMANCE (PE)	0,577	0,645	**0,835**		0,616	0,699		
INST.PRESSURE (IP)	0,668	0,650	0,474	**0,747**	0,746	0,725	0,522	

6.5.3 Analyzing the Results of the Proposed Hypotheses about Digitalization and Performance.

The confirmation of the hypothesis was based on the analysis of the path of the constructs by testing significance using a bootstrap of 5,000 samples (Hair et al., 2012). There is a positive relationship between institutional pressure (IP) and digitalization (DI) (β=0.411, t=7.135) supporting our hypothesis that institutional pressure has led firms towards digitalization. In recent years, the Public Administration has updated its processes with the adoption of a wide range

of control, monitoring, and supervision technologies. The implementation of these developments has led the Administration to force companies to undertake in a digital manner many processes that were previously paper-based.

Table 24. Path-Model Coefficients and Significance

Definition	Path Coefficient	T-stat.	p-value	CI	
Institutional Pressure → Digitalization	0.411	7,135	0,000	[0.305-0.528]	SUP.
Institutional Pressure → Consultancy	0.668	17,755	0,000	[0.593-0.740]	SUP.
Consultancy → Digitalization	0.357	6320	0,000	[0.356-0.242]	SUP.
Digitalization → Performance	0.482	7,88	0,000	[0.361-0.600]	SUP.
Consultancy → Performance	0.298	5,152	0,000	[0.177-0.407]	SUP.
Institutional Pressure → Performance	-0.038	0.690	0,493	[-0.146-0.070]	NON-SUP.

To this extent, H2 and H3 were also accepted, showing that there is a positive relationship between institutional pressure and Consultancy (β=0.668, t=17.755) and between consultation and digitalization (β=0.357, t=6.320). The acceptance of these two hypotheses is in line with the acceptance of the first hypothesis.

Many of the companies that have been forced to embrace the digitalization of their processes, as a consequence of institutional pressure, have done so through consulting in some cases or directly in others. The results also show a positive relationship between consulting and performance and between digitalization and performance (both H4 and H5 accepted), which leads us to consider the role of consulting and digitalization as value drivers for businesses. Finally, we found that there is no significant relationship between institutional pressure and performance (H6 rejected).

6.6 Analysis of the Indirect Effects on Digitalization and Performance.

The fact that there seems to be an intense relationship between the constructs that are part of the model leads us to take into consideration the existence of indirect effects between the constructs that could help us go beyond the role of those factors in the digitalization of the firm, especially for institutional

pressure that is not supported. To demonstrate the effect of institutional pressure on performance, indirect effects were assessed. The mediating effects are summarized in Table 25.

Table 25. Effect Analysis on Performance and Digitalization.

	Direct	Specific Indirect	Total Indirect	Total Effect
IP → DI	H1: 0.411***	0.238***	0.238***	0.650***
IP → CA	H2: 0.668***	-	-	0.668***
CA → DI	H3: 0.357***	-	-	0.357***
DI → PE	H4: 0.482***	-	-	0.482***
CA → PE	H5: 0.298***	0.172***	0.172***	0.470***
IP → PE	H6: -0.038	0.198*** 0.199*** 0.115***	0.512***	0.474***

Note: ***: significant at p<0.01

Although H6 was not supported, since the direct effect of institutional pressure on performance was not significant, the study of indirect effects yielded different results. As we can see from the study of specific indirect effects, two moderating constructs are present in the relationship between institutional pressure (IP) and performance. Both consulting (CA) and digitalization (DI) make the relationship between institutional pressure and firm performance have a positive and significant total effect. This turns out to be of utmost importance, as it supports consulting as a carrier and facilitator of digitalization and, ultimately, performance. Furthermore, one of the circumstances that stand out the most from the analysis of indirect effects is the change of sign in the coefficient between institutional pressure (IP) and business performance (PE). It should be taken into account that there is no absolute certainty that the indirect effect between constructs is positive. A negative indirect effect would mean in this case that certain parts of the direct and indirect contribution of IP on PE pull in opposite directions in which one cancels out the other, which would imply that the partial correlation is greater than the direct correlation.

As can be seen in Table 25 of total effects and total indirect effects, the relationship is stronger when performance is achieved through consulting and digitization than through institutional pressure directly. This tells us about the

importance of the mediating effect of consulting and digitalization on firm performance. Therefore, we can state that all hypotheses were supported with a 99.9% confidence level of 99.9%. This outcome represents a contribution to the literature since it supports the hypothesis that external forces like institutional pressure could influence the process of digitalization, that this process is well-conducted by consulting, and that this contributes to a better performance of the firm.

6.7 Finite Mixured (FIMIX) Segmentation for Digitalization and Performance.

Segmentation technologies like PLS-POS (Arenas-Gaitán et al., 2020; Becker et al., 2013) and FIMIX-PLS help identify latent segments in data. PLS-PM finds dichotomies but struggles with complex segmentations. FIMIX-PLS estimates mixture models and offers probabilistic segmentation, making it preferred for accurately capturing complex, multi-group heterogeneity.

We use FIMIX (Hahn et al., 2002; Hair, Sarstedt, et al., 2016; Palos-Sanchez et al., 2018; Sarstedt, Becker, et al., 2011; Sarstedt & Ringle, 2010) as a complementary technique to the standard PLS procedure. In doing so, we intend to evaluate the PLS path modeling results achieved from the aggregate model so that the measurement models can also be invariant between groups (Henseler et al., 2016).

When conducting the survey on the observed sample, we have considered it to be a homogeneous sample, that is, one that shares common characteristics and attributes; however, evidence shows that situations of homogeneity rarely exist in the observed data. This is known as data heterogeneity, which can lead to misleading conclusions from the results (Sarstedt et al., 2014). The heterogeneity in our data can be observed or unobserved. When we refer to observed heterogeneity, the source of the heterogeneity is in observable values such as age, height, sex, etc. When we speak of unobserved heterogeneity, we

refer to the existence of variables not included in the study (unobservable), but which are correlated with the observed ones (Palos-Sanchez et al., 2018). The use of FIMIX helps us to obtain valid results even in the presence of unobservable heterogeneity, so the point is to check that results are not affected by unobserved heterogeneity in the inner path model estimates, so the structural model is the same for all the subgroups, not the existing high differences in path coefficients across groups. We follow the four-step procedure proposed by Hair et al. (2016). First, we use FIMIX to divide the sample into different segments.

One of the first challenges when choosing this method is the decision about the number of segments to be examined. According to the reviewed literature, the preference is to use the fewest number of segments (Hair, Hult et al., 2016). The theoretical maximum number of segments is the largest integer resulting from the division of the sample size n by the minimum size required for each sample segment. n_{min}: [n / n_{min}]. Considering that we have a sample size N = 600, for our calculations, we estimate a minimum population size per segment of nmin = 120 and, therefore, several segments k=5. The results, shown in Table 26, were analyzed using different information criteria provided by the FIT criteria indexes.

Table 26. FIT Indexes. Criteria for Model Choice.

Fit Indexes	k=2	k=3	k=4	k=5
AIC (Akaike's Information Criterion)	3509,451	3455,771	3420,437	3394,788
AIC3 (Modified AIC with Factor 3)	3528,451	3484,771	3459,437	3443,788
AIC4 (Modified AIC with Factor 4)	3547,451	3513,771	3498,437	3492,788
BIC (Bayesian Information Criteria)	3592,992	3583,282	3591,918	3610,237
CAIC (Consistent AIC)	3611,992	3612,282	3630,918	3659,237
MDL5 (Min. Description Length with Factor 5)	4079,159	4325,325	4589,839	4864,036
LnL (LogLikelihood)	-1735,725	-1698,885	-1671,219	-1648,394
EN (Entropy Statistic (Normed))	0,600	0,528	0,480	0,567

Following Hair (2016) and Sarstedt (2011), we can see that both the Akaike information criterion modified with factor 3 (AIC3) and the consistent Akaike information criterion (CAIC) do not target the same number of segments, and the same holds true for AIC3 and the Bayesian information criterion (BIC). The Akaike information criterion (AIC) overestimates, and the minimum

description length with factor 5 (MDL5) underestimates the right number of segments. The AIC suggests a five-segment solution, which leads one to believe that the optimal number is clearly lower than this. At the other extreme, CAIC and MDL5 specify a solution of one segment, suggesting that two or more segments should be considered. Therefore, the number of segments must be between k=2 and k=4. However, the two-segment solution presents an EN value of 0.60 suggesting that the two segments are well separated. Considering that a smaller number of segments is usually recommended to ensure parsimony and manageability, and also taking into account that each chosen segment should have a large enough subsample to warrant strategic attention, we consider the choice of two segments appropriate (Sarstedt & Mooi, 2014). As can be seen in Table 27, for the solution k = 2, the segmentation of the segment was 60.40% of the sample (362) and 39.60% of the sample (238).

Table 27. FIT Indexes Segmentation. Criteria for Model Choice.

K	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
2	0,604	0,396			
3	0,547	0,254	0,199		
4	0,309	0,265	0,249	0,176	
5	0,403	0,28	0,162	0,095	0,059

We continue our analysis by separately estimating the PLS path model for each segment. We also run bootstrapping for each segment. The results are presented in Table 28.

Table 28. Segment-Specific Path Coefficient Estimate.

		All (n=600)			**Segment 1 (n=379)**			**Segment 2 (n=221)**		
		Path	T Stat.	p-value	Path	T Stat.	p-value	Path	T Stat.	p-value
IP→DI	H1	**0,411**	7,215	0,00	**0,316**	6,732	0,00	**0,364**	5,251	0,00
IP→CO	H2	**0,668**	17,942	0,00	**0,862**	69,878	0,00	**0,434**	6,175	0,00
CO→DI	H3	**0,357**	6,34	0,00	**0,597**	13,017	0,00	**0,264**	3,986	0,00
DI→PE	H4	**0,482**	7,863	0,00	**0,637**	13,565	0,00	**0,429**	5,832	0,00
CO→PE	H5	**0,298**	5,102	0,00	**0,225**	4,228	0,00	**0,183**	2,722	0,00
IP→PE	H6	**0,038**	0,691	0,49	**0,073**	1,691	0,09	**0,151**	2,227	0,02

The coefficients and significances obtained in each segment (Table 28) replicate with enough similarity to those obtained in the complete sample, which leads us to believe in their coherence. From the data obtained, the significance of the negative coefficient between institutional pressure and performance is emphasized. Segment 2 presents a significant path coefficient of -0.151, which indicates that institutional pressure in isolation does not lead companies to achieve higher performance, but just the opposite.

6.8 Discussion about the Role of Consultancy and Digitalization on Performance.

This research is novel because it combines the study of direct and indirect effects with the FIMIX-PLS technique, which has rarely been used in the field of analyzing the role of consulting in the digitalization of the company.

The results confirm the theoretical background studied in the field of digitization and institutional pressure, in the sense that IP represents an incentive for digital transformation (H1 accepted). Our research goes a step further concerning the theory contained in our theoretical framework, in terms of demonstrating the positive effect of institutional pressure on consultancy. (H2 accepted) and the effect of consulting on digitalization (H3 accepted). In this respect, our study has taken a step forward in terms of the lines of research that were proposed in our theoretical framework concerning demonstrating such relationships in other sectors (as has been done for the consulting sector). Finally, we have demonstrated the important relationship between digitalization (promoted by IP and CA) and business performance (H4 and H5 accepted).

Finally, although we initially found a non-significant relationship of negative signs between IP and performance, the study of the indirect effects, however, yielded opposing data, finding a significant relationship between the two constructs, again highlighting the role of consulting in digitization and business performance.

CHAPTER 7.
External Drivers.
Technological and Institutional Pressures.

7.1 From Forced Digitalization to Business Survival.

The digital transformation process within a business is multifaceted and influenced by a range of facilitators and inhibitors. Internally driven digitization efforts often aim for profit maximization, economies of scale, organizational value enhancement, and addressing operational challenges (Bharadwaj et al., 2013). Alternatively, external factors can prompt digitalization, as observed by Bowman et al. (2018), encompassing demands for advanced software, just-in-time consulting, data-driven decision-making, obligatory tax filings, electronic notifications, paperless government services, and electronic procurement, among others.

Based on the preceding discussion, it is reasonable to consider that the progression of business digitalization may transcend voluntary and deliberate efforts motivated by internal factors. Rather, it may be prompted or forced by external factors, including institutional (regulatory measures), market-based (economic forces), or social pressures (relational ties, for example, in family-owned businesses), resulting in what we propose to call 'environmental digitalization'. (DiMaggio & Powell, 1983; Jiao et al., 2021; Kreuzer, 2017; Liang et al., 2007). Despite this external imposition, positive performance and survival outcomes for the organization may still be achievable, as evidenced by previous research (Berghaus & Back, 2017; Kohlen & Holotiuk, 2017).

Family businesses have received considerable attention from researchers over the past three decades because their management and organization are considered different from those of nonfamily businesses (Acquaah, 2012; Chrisman et al., 2005). Among the topics of greatest attention in family firms, it has been highlighted: profitability (Anderson & Reeb, 2003; Naldi et al., 2007), growth (Daily & Dollinger, 1992), export orientation (Graves & Thomas, 2008), internal orientation and organization (Davis, 1983), R&D investments (Chrisman & Patel, 2012), loss aversion and long-term orientation (Naldi et al., 2007).In this regard, some authors have asked whether all attributes of family firms are unique

to this type of firm or whether they could be mirrored by nonfamily firms (Chua et al., 2012). This research aims to respond to these calls from the literature by addressing the following research questions.

RQ1. Do institutional pressures and technological turbulences serve as catalysts for the digitalization of business operations?

RQ2. What are the differences and effects of these antecedent variables on family and non-family businesses?

RQ3. Does environmental digitalization, imposed by exogenous elements on the company, facilitate business survival in times of turbulence?

We contribute two bold new ideas to the scholarly domain. By employing Social Capital Theory (Arregle et al., 2007) in the context of family businesses, we address Rovelly et al.'s (2021) appeal for research on crisis endurance, asserting that external factors, namely technological turbulence and institutional pressure, are vital in ensuring business continuity. Furthermore, we contend that these elements exhibit a stronger association with resilience in family firms, particularly as resilience promotes digitalization. We also uncover a direct and robust connection between digitalization and survival, specifically within family-owned businesses. This investigation is organized as follows: The theoretical foundations of our investigated variables and the formulation of the suggested hypothesis are provided in the next section. The methodology and findings are then presented in the following sections, respectively. We conclude with limits and recommendations for further research after discussing theoretical and managerial implications.

7.2 Hypothesis. The Answer of Resilience to External Pressures.

This study investigates the resilience of businesses, particularly family-owned companies, in the face of external challenges. Just as organisms prioritize essential functions to protect themselves when faced with threats, businesses adapt similarly to external crises. It is assumed that family businesses may exhibit

a greater capacity to adapt due to their inherent socioemotional wealth (Berrone et al., 2012), resulting in a diverse range of strategies and responses to external contingencies. The theoretical framework for this research is grounded in the concept of social capital (Coleman, 1990), which emphasizes the importance of trust, norms, and informal networks in achieving goals.

Family businesses represent organizations guided by social capital principles. Bonding social capital (Woolcock, 1998) describes the connections among closely related individuals, such as family members, and typically manifests as an insular, protective, and cohesive network, thereby facilitating specific reciprocity and promoting group solidarity (Bhandari & Yasunobu, 2009; Sánchez et al., 2021; Velicia Martín et al., 2020).

The study suggests that family businesses prioritize long-term investment plans (Sirmon & Hitt, 2003) and examines the influence of external factors on organizational longevity, while also determining if family firms' inherent resilience accentuates this relationship.

7.2.1 Survival and Digitalization under External Pressures.

Survival represents the highest imperative for companies. However, there exists a controversy between short-term and long-term objectives; what has arisen is the issue of ‘short-termism’, which refers to an excessive focus on short-term results (performance) at the expense of long-term interests (survival) (Laverty, 1996).

Firm survival is affected by both internal attributes and external conditions, with certain attributes being quantifiable, while others pose measurement challenges. There are two levels of survival causes: those originating within the firm and those at the industry level, which can also impact the firm's longevity (Table 29).

Table 29. Inward and Outward Matrix of Survivability.

	Inward	**Outward**
Firm Level	Size Age Resilience Digitalization	Crises Institutional Pressures Technological Pressures
Industry-Level	Institutional Pressures Technological Pressures	Market Size Competence Product Life Cycle Market Growth Rate

Noticeable inward survivability causes, at the firm level, have traditionally been highlighted as size and age variables (Agarwal & Audretsch, 2001; Dunne & Hughes, 1994; Esteve-Pérez et al., 2018; Evans, 1987; Yan & Williams, 2021). Novel concepts, such as resilience and digitization, have been introduced over time, forged in response to differences in survival (Chadwick & Raver, 2020; Corvello et al., 2022; Sakurai & Chughtai, 2020). Digitalization can also be imposed by outward causes at the industry level. Going digital with the subsequent digitalization of certain processes can improve the survival of companies, facilitating their adaptation to the strategic and technological changes in their sector (Ghobakhloo & Fathi, 2020). This digitalization process will be more easily developed if the company has better skills to integrate these technological capabilities into its operations. Although digitalization has enabled many business sectors to optimize their resources and capabilities, helping them better adapt to the economic environment, on other occasions, the unsuitability to technological changes or business shortsightedness has led to the decline and turnaround of the company (Kumar & Andriani, 2020). All of these assumptions allow us to conclude that digitalization is key to longevity (see Figure 15):

H1(+). Digitalization is positively related to survival.

7.2.2 Technological Turbulences, Resilience, and Digitalization.

The business environment is a turbulent context. Turbulence has been classified by the literature into two types: market turbulence and technological turbulence, which has been defined as the rate of technological change in a

market (Jaworski & Kohli, 1993). Although the impact of technological upheaval on performance, both good and bad, has been explored, the firm's ability to survive seems to have received less attention. As described by Christensen (2013), in his study of technological turbulences in the floppy disk market, technological turbulence appears to be closely related to the survival rate of firms operating in the industry. 'Although it is tempting to ascribe the 100% failure rate of related market entry firms to the inappropriateness of such a corporate form in a technologically turbulent market or to ascribe the success of start-ups to capabilities or corporate forms better suited to this environment, it appears instead that the firms' failure and success rates are influenced most strongly by the technology and market strategies they pursued, rather than by their size or corporate structure.' (Christensen, 1993, p. 570). From this point of view, taking into account what is stated in Table 29, it seems that there are outward causes, such as technological turbulence, that can operate not only at the firm level but also at the industry level. Digitalization makes it possible to better adapt to the constraints of the market, such as technological turbulences. In this sense, resilience represents an enabler and catalyst of digitalization when there is a disturbance (Ingram & Simons, 1995; Kuo et al., 2021). Therefore, it is appropriate to argue (see Figure 15):

H2(+). Technological turbulences have a positive effect on digitalization.

According to the above-mentioned line of thinking, because families may frequently be the first caretakers during turbulences of any kind, such as catastrophes or any type of contingency, organizational links are essential to community resilience (Patterson, 2002). Social capital theory adheres closely to resilience (Aldrich & Meyer, 2015). Organizational management adopted this construct to explain the ability of the business to withstand, adapt to, and even survive in the face of shocks that can jeopardize a firm's longevity. Therefore, by using the term business resilience, two circumstances are meant: the flexibility to change, on the one hand, and the ability to adapt to a hostile environment, on the other (Williams et al., 2017). Under these considerations (see Figure 15):

H3(+). Technological turbulences are positively related to resilience.

Furthermore, the relationship between technological upheavals and digitalization is highly dependent on resilience. Digitalization is frequently a response to increasing instability in the organizational environment. This is how entrepreneurial resilience enables the business to adapt to these disruptions, frequently by digitizing specific processes (Zhang et al., 2021). In this study, we put forth the hypothesis that the development of digitalization processes supporting digital transformation is driven by the company's ability to adapt, as assessed by resilience. This assertion leads us to suggest that:

H4(+). Resilience is positively related to digitalization.

7.2.3 Institutional Pressure, Resilience, and Digitalization.

Institutional pressure can be defined as the forces imposed by a higher-order organization that compels a company to behave differently from what is established in its strategic policies, which might be considered an outside force driving digitalization (Jiao et al., 2021). Institutional pressure sources are many: Government regulations, trade organization requirements, International Standards Organizations, etc. (Kuo et al., 2021; Liang et al., 2007). Examples of this include the mandatory implementation of electronic certificates for the submission of tax returns solely in an electronic format, the communication to Social Security of employees' enrollment and termination, and many more mandatory procedures adopted by the European Union (as it is the case of e-procurement) (Hardy & Williams, 2008). On this premise, institutional pressure from the Administration's mandatory acceptance of digital reforms has helped to further digitalization (Brazo et al., 2022). Institutional pressure is frequently considered to be a key factor in the adoption of digitalization initiatives (Van Akkeren & Cavaye, 1999). Business settings have a great impact on the technology adopted. Furthermore, if institutional organizations, public or private,

demand that a certain technology be implemented and accepted, these companies will be more affected and inclined to adopt it (Costa & Castro, 2021). As seen in Figure 15, we offer the following hypothesis based on this line of reasoning.

H5(+). Institutional pressure is positively related to digitalization.

Family and nonfamily firms are exposed to the same institutional pressures and market restrictions. Nevertheless, family businesses have been around for a very long time and still control the economies of most countries(La Porta et al., 1999). There seem to be solid arguments in favor of the notion that at least some family businesses are far more resilient than nonfamily ones (Chrisman et al., 2011; Chua et al., 2012). Following these assumptions, we can hypothesize that:

H6(+). Institutional pressure is positively related to resilience.

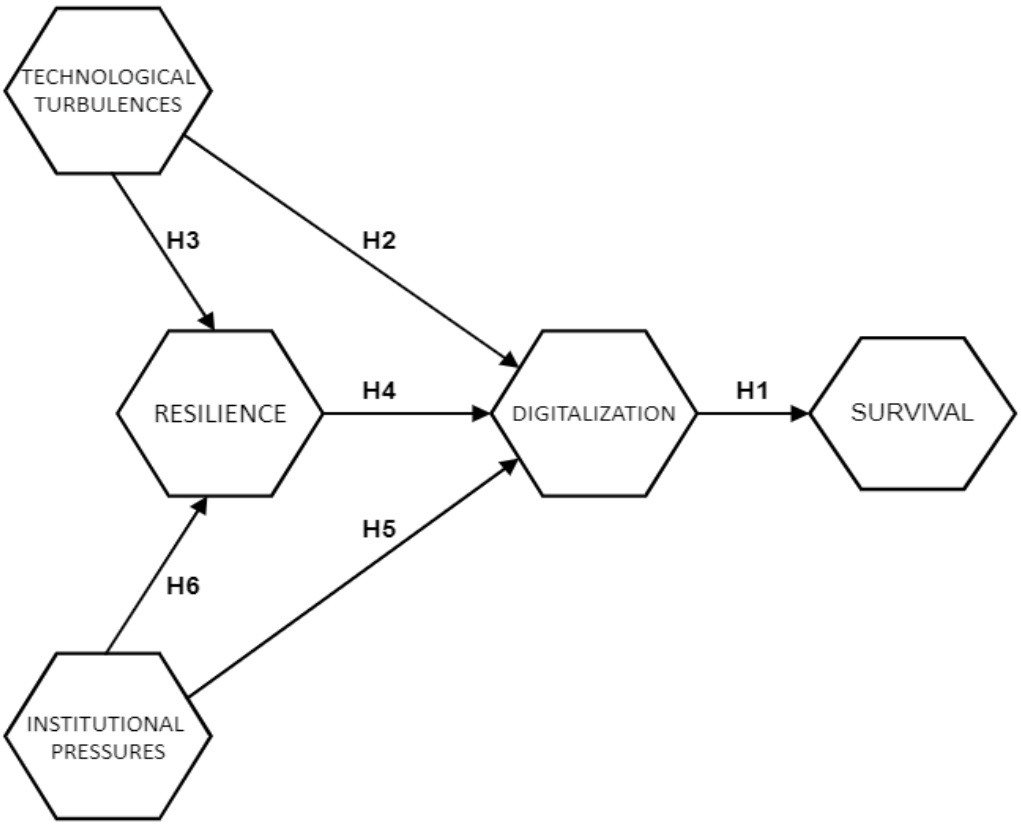


Figure 15 Proposed Structural Research Model Through Resilience

7.3 Methodology in Forced Digitalization.

7.3.1 Data Collection. The study of Digitalization on Survival.

The target population of this study includes all Spanish companies that have invested in digitalization, employ one or more employees, and are not self-employed entrepreneurs. A sample from this group of businesses was selected to pilot a pre-test (n=50) to assess the potential effectiveness of the survey during the questionnaire creation process. The survey was administered online with the help of a well-known national market research organization. The use of a market research firm to gather data offers several advantages regarding generalizability (Ghasemaghaei & Calic, 2020). To determine the respondents' suitability, an analysis was conducted (Atuahene-Gima & Ko, 2001) to evaluate their appropriateness for responding to the questionnaire and their decision-making abilities within their respective firms. The time taken to complete the questionnaire was also considered and all respondents who took less than 9 minutes were excluded since this was deemed the minimum time necessary for adequate reading and responding. 665 individuals participated in the survey, with a response rate of 90.23 percent.

7.3.2 Measurements.

The literature has identified digitalization as both a key driver of organizational performance (Pierre et al., 2022; Wang et al., 2020) and an important factor for entrepreneurial survival (Cefis & Marsili, 2005). We suggest digitalization as a survival-explanatory variable in our study. Both the operationalization of digitalization by Khin & Ho (2019) and the operationalization of survival by Naidoo (2010) are adopted in this study (see Table 30). The artifact of digitalization can be explained by three variables: technological turbulences, institutional pressure, and resilience. To operationalize these variables, the Liang et al. scale (2007) is used for institutional pressure, Zhou's (2010) approach for technological turbulences, and Williams et al.'s (2017)methodology for organizational resilience.

Table 30. Literature Framework for Construct Operationalization.

Construct	Authors
INSTITUTIONAL PRESSURE	Liang et al. (2007)
TECHNOLOGICAL TURBULENCES	Zhou (2010)
RESILIENCE	Williams et al.(2017)
DIGITALIZATION	Khin & Ho (2019)
SURVIVAL	Naidoo's (2010)

7.3.3 Data Analysis.

We used Partial-Least Squares Structural Equation Modeling (PLS-SEM) for several reasons. First, the design of our model is consistent with a composite measurement model (Henseler, 2021). Second, according to Henseler (2021, p. 43): 'phenomena such as capabilities, indices, interventions, norms, plans, policies, portfolios, processes, recipes, strategies, and values are best modeled as emergent variables', in this regard, PLS-SEM represents an important technique to examine our research hypothesis. Third, factor-based approaches cannot be used to achieve this research goal because they involve evaluating the research model in terms of prediction (Rigdon, 2012). Thus, we used the SmartPLS 4 software package (Ringle et al., 2022) to perform these analyses. A two-stage PLS-SEM scheme was implemented (Cepeda-Carrion et al., 2019; Chin, 1998). In the first place, the reliability and validity of the measurement model were to be confirmed, and afterward, a noniterative application of the ordinary least squares algorithm was conducted to determine the loadings of the forged variables and the relationships in the structural model. Second, a bootstrapping procedure was applied to assess the significance of relationships in the structural model (Chin, 1998).

7.4 Results.

7.4.1 Sample Descriptives.

Table 31 presents an extensive description of 600 firms doing business in the Agriculture, Construction, Industry, and Services sectors. The finding relates to the high predominance of the Services sector throughout different groups. This sector includes an important percentage of both family-owned and non-family-

owned firms, covers diverse age groups; and includes ownership by people of both genders. In the Services sector, it has been observed that family-owned firms account for 23.5% of all firms, while non-family firms constitute 39% of the entire sector. This observation suggests that the Services sector shows an aptitude for adaptability and an openness to adopt different kinds of ownership. In terms of age, it is observed that nearly all of the companies, representing 30% of the total, have been running for more than 21 years. In most of these firms, the Services sector displays the greatest number, constituting 19.2% of the total. The observed longevity implies the presence of an enduring and well-established market, particularly in the field of services. In relation to gender, there is a higher prevalence of companies owned by males, accounting for 58% of the whole number. Once again, it is seen that the Services sector holds a dominant position, representing 36.3% of the total number of firms held by males.

Table 31. Descriptive statistics

n=600	Agriculture		Construction		Industry		Services		TOTAL	
	N	%	N	%	N	%	N	%	N	%
Family-Non-Family Firm										
YES	27	4.5%	63	10.5%	44	7.3%	141	23.5%	275	46%
NO	8	1.3%	25	4.2%	58	9.7%	234	39.0%	325	54%
Age										
[0-4]	2	0.3%	7	1.2%	3	0.5%	35	5.8%	47	8%
[5-10]	6	1.0%	17	2.8%	24	4.0%	114	19.0%	161	27%
[11-14]	1	0.2%	16	2.7%	15	2.5%	36	6.0%	68	11%
[15-20]	11	1.8%	32	5.3%	29	4.8%	75	12.5%	147	25%
More than 21	15	2.5%	16	2.7%	31	5.2%	115	19.2%	177	30%
Gender										
Male	19	3.2%	41	6.8%	70	11.7%	218	36.3%	348	58%
Female	16	2.7%	47	7.8%	32	5.3%	157	26.2%	252	42%
Size (#Employees)										
[1 a 10]	5	0.8%	13	2.2%	16	2.7%	147	24.5%	181	30%
[11 - 50]	6	1.0%	18	3.0%	23	3.8%	57	9.5%	104	17%
[51 - 250]	12	2.0%	19	3.2%	31	5.2%	74	12.3%	136	23%
More than 250	12	2.0%	38	6.3%	32	5.3%	97	16.2%	179	30%

This observation suggests that although the Services sector exhibits a comparatively higher level of gender inclusivity compared to other sectors, it still predominantly consists of male-owned businesses. In conclusion, it can be observed that small firms that include 1 to 10 employees constitute 30% of the whole population, with the Services sector accounting for 24.5% of this

proportion. The high occurrence of small enterprises in the Services sector might indicate the industry's relatively low barriers to entry and its compatibility with small-scale entrepreneurship.

7.4.2 Assessing Measurement Model.

This research presents a model that is made up of three different artifacts. These artifacts include institutional pressure, technological turbulences, and resilience. Together, these three artifacts have a direct influence on the endogenous variable of digitalization, which in turn has an effect on the survival of businesses.

As noted by Henseler, (2017), primary constructs in social science research are often conceptual in nature, and indicators of the composites are likely to be correlated. To address this problem, correlation weights were used to estimate the components of the model in Mode A, as proposed by Rigdon (2016), resulting in a more robust and accurate representation of the underlying relationships among the constructs.

To assess the reliability and validity of the constructs in the model, the study followed the approach of Hair et al. (2022)) by examining the loadings of the indicators and dimensions and assessing internal consistency reliability using composite reliability (CR).

The results indicated good reliability levels, as all the constructs had CR values greater than 0.7. Furthermore, the convergent validity was established using the extracted average variance (AVE), which indicated that all the constructs achieved convergent validity with AVE values greater than 0.5. These findings give support to the utilization of the suggested model in further studies that investigate the influence of institutional pressure, technological turbulence, and resilience on digitalization and the long-term survival of businesses.

Table 32. Measurement results.

Construct / Item		Loads.	CA	CR	AVE
	Technological Turbulence (TT)		**0,838**	**0,878**	**0,513**
TT1	We encourage the exchange of information and experience with other companies in our sector.	0,780			
TT2	We encourage new hires to develop and use their experience from their previous companies.	0,810			
TT3	My Company has a clear division of roles and responsibilities that prioritizes the use of new technologies in its operations.	0,802			
TT4	Our organization has the technological resources necessary to implement new knowledge and technologies acquired better than its competitors.	0,453			
TT5	Our company relies on resources (e.g., intranet, internal studies/reports) to disseminate knowledge throughout the organization.	0,782			
TT6	My company's business activities are more sustainable through the use of innovation and technology.	0,641			
TT7	Technology and innovation are essential for environmental care.	0,674			
	Resilience (RE)		**0,896**	**0,916**	**0,552**
RE1	We easily react to problems (lack of raw materials, price increases,...).	0,672			
RE2	Our sales do not have to be affected by the environment: COVID, Inflation,...	0,620			
RE3	We have the ability to provide a quick response to customer demands or problems with suppliers.	0,799			
RE4	We adapt quickly to changes in demand.	0,807			
RE5	We quickly accommodate our cash and resources to the needs of the company.	0,847			
RE6	We adapt our products or services in a timely manner to the needs of our customers.	0,795			
RE7	We find fast and effective solutions to labor problems.	0,770			
RE8	We constantly renew our processes to improve efficiency.	0,755			
RE9	My company has become more efficient by now than it was before COVID.	0,572			
	Institutional Pressure (IP)		**0,838**	**0,898**	**0,558**
IP1	Our competitors have widely benefited from the introduction of Digital Innovations in their companies	0,717			
IP2	Those companies in our sector that introduce digital innovations are seen by the market in a more satisfactory way.	0,767			
IP3	The pressure from the Public Administration has led us to introduce Digital Transformations in our company.	0,664			
IP4	The sector where we develop our business activity has forced us to introduce digital technologies.	0,760			
IP5	Introducing Digital Transformations in the company has been necessary to improve the management processes with our suppliers.	0,834			
IP6	Clients demand from our company the introduction of new technologies and digital developments.	0,765			
IP7	Clients demand from our company the introduction of new technologies and digital developments.	0,709			
	Digitalization (DI)		**0,929**	**0,944**	**0,738**
DI1	We offer higher quality digital solutions compared to those of our competitors.	0,877			
DI2	Our digital solutions' features are superior to those of our competitors.	0,880			
DI3	The usability of our digital solutions is totally superior to those of our competitors.	0,888			
DI4	In terms of product range, our digital solutions are different from those of our competitors.	0,862			
DI5	Some of our digital solutions consist of minor enhancements to existing products.	0,815			
DI6	Most of our digital solutions are new to the market at the time of launch.	0,830			
	Survival (SU)		**0,903**	**0,921**	**0,543**
SU1	The company will survive the current Energy crisis.	0,693			
SU2	My firm has the ability to withstand the challenges of the current crisis.	0,798			
SU3	My firm is in a good position to cope with the slowdown in business activity that is currently being experienced as a result of the previous crisis.	0,782			
SU4	Sales volume has declined in the past six months as a result of the crisis, but we will bounce back stronger than before.	0,454			
SU5	Digitalization has helped reduce the impact of our processes.	0,818			
SU6	Going digital enabled us to adapt our workforce to continue producing.	0,795			
SU7	Using consultants played an important role in addressing the crisis.	0,762			
SU8	Management consulting represents an important resource for the company.	0,779			
SU9	Business longevity is more important than profits.	0,617			
SU10	My company is able to survive a new crisis of any kind: energy, inflationary, ...	0,794			

Notes: Ca: Cronbach's Alpha CR: Composite reliability, AVE: Average variance extracted.

To evaluate the discriminant validity of the constructs, two criteria were utilized. The first criterion, known as the Fornell-Larcker criterion (1981), was employed to determine the uniqueness of the constructs. The second criterion, which is the heterotrait-monotrait (HTMT) ratio (Henseler et al., 2015), was also utilized as an alternative measure due to criticisms of the Fornell-Larcker criterion. The HTMT ratio was based on consistent factor loading estimates. The results presented in Table 33 indicate that the discriminant validity of the constructs was established, as evidenced by the square root of the average variance extracted (AVE) for each construct is greater than the predicted correlation values.

Table 33. Discriminant Validity of External Drivers. Fornell-Lacker (FL) and HTMT.

	Fornell Lacker / HTMT				
	DI	**IP**	**RE**	**SU**	**TT**
DIGITALIZATION (DI)	**0.859**	0.630	0.771	0.818	0.805
INSTITUTIONAL PRESSURE (IP)	0.569	**0.747**	0.518	0.591	0.671
RESILIENCE (RE)	0.705	0.463	**0.743**	0.821	0.736
SURVIVAL (SU)	0.757	0.536	0.734	**0.737**	0.798
TECHNOLOGICAL TURBULENCES (TT)	0.740	0.592	0.659	0.719	**0.716**

*FL values under principal diagonal matrix elements / HTMT values above

7.4.3 Assessing the Structural Model.

Hypothesis confirmation was based on construct path analysis using a 10,000 sample bootstrap significance two-tail test (Hair et al., 2012). For the antecedent variables of the endogenous constructs, we first calculate the VIF values. Multicollinearity was not an issue since the range of values ranged from 1.000 to 2.216. We examine the structural model for any possible nonlinearities. The addition of interaction terms accounts for the quadratic effects of each antecedent variable on each endogenous variable (Sarstedt et al., 2020). By using bootstrapping, none of the quadratic effects of family and nonfamily groups was demonstrated to be significant (10,000 samples). As a result, we concluded that the linear effects model was robust.

As seen in Table 34, the coefficient of determination (R^2) of endogenous variables shows us a good level of the predictive power of the model.

Digitalization, survival, and resilience achieve an R^2 of 0648, 0.574, and 0.442 respectively, indicating that the combined effects of exogenous latent variables on the endogenous variables have good predictive power.

Table 34. Direct Effects on the Endogenous Variables.

		VIF	Direct effect	p-value	CI	f^2	Decision
DIGITALIZATION (R^2=0.648)							
Technological Turbulences	(H2)	2.168	0,161	0.000	0.403 - 0.593	0.356	Supported
Resilience	(H4)	1.792	0,363	0.000	0.249 - 0.424	0.181	Supported
Institutional Pressures	(H5)	1.562	0,406	0.037	0.002 - 0.168	0.015	Supported
SURVIVAL (R^2=0.574)							
Digitalization	(H1)	1.000	0,757	0.000	0.671 - 0.781	1.163	Supported
RESILIENCE (R^2=0.442)							
Institutional Pressures	(H6)	1.540	0,112	0.003	0.041 - 0.246	0.030	Supported
Technological Turbulences	(H3)	1.540	0,592	0.000	0.467 - 0.656	0.411	Supported

CI: Confidence Interval

Looking at the effect size f^2, we achieve values ranging from 0.015 to 0.356, showing that the change in R^2 when this exogenous construct is omitted has no significant impact (Hair, 2014). TT and RE are positively related (H3: β=0.592, p=0.000), which supports our hypothesis that TT represents an enhancer of resilience. The development of resilience is itself a competitive advantage for firms, as it increases technological adaptation through digitization processes (H2: β=0.161, p=0.000) which in turn mitigates technological turbulence. Similarly, we accepted the relationship between IP and RE (H6: β=0.112, p=0.003). Although institutional pressure forces firms to empower specific skills that fuel the adaptation processes known as resilience, it also increases the digitalization process, as can be confirmed, and is supported by the direct relationship between IP and DI (H5: β=0.406, p=0.037).

We also found a positive relationship between RE and DI (H4: β=0.363, p=0.000). Resilience, which is understood as the ability to adapt to the environment, is a facilitator of digitization. Consequently, companies with greater capacity to adapt to unforeseen events and technological turbulence are those that will better cope with a digitalization process. So, we can say that the role of technological turbulence, institutional pressure, and resilience play a supporting role in digitalization and survival, as our findings suggest (H1: β=0.757, p=0.000).

7.5 Multigroup Analysis: Family versus Non-Family Firm.

A multigroup analysis (MGA) (Henseler et al., 2009) was conducted aimed at testing whether the consideration of a company as a family business differed from nonfamily businesses in terms of their survival and digitalization.

7.5.1 Group Sample Size Issue.

Our first consideration when performing a PLS_MGA is to consider similar group sample sizes. Despite the low impact of unequal group sizes on the performance of the permutation test performance,(Klesel et al., 2022), it is, however, feasible to balance the sample sizes of the groups. We split the sample into two groups, family firms with 275 (46%), and nonfamily firms with 325 (54%).

7.5.2 Measurement Model Invariance (MICOM).

Once we have to disaggregate the whole sample into two groups, prior to the multigroup analysis, measurement invariance of composite models (MICOM), also known as measurement equivalence (Henseler et al., 2016). Measurement equivalence implies that family and nonfamily firms' differences in model estimates do not come from a distinctive content and meaning of the construct across the groups. Then, it was performed to confirm that the effect of considering a firm as a family or nonfamily firm is restricted to the coefficients of the structural model and not to the measurement parameters of the model. In summary, measurement invariance allows us to identify the chance of making meaningful comparisons of the conceptualizations of the constructs, the means of the constructs, and the relationships between them. The MICOM procedure follows a three-step approach for invariance measurement: configurational invariance (step 1), compositional invariance (step 2), and the equality of mean value and composite variances (step 3). It can be concluded that the first step related to configurational invariance is satisfied based on the findings obtained and displayed in Table 35.

Table 35. Results of the Measurement Invariance of Composite Models (MICOM).

MICOM Step 1				
Configural variance established= YES				
MICOM Step 2				
Construct	Correlation Value (=1)	5%	p-value	Compositional Invariance Establish?
DI	1.000	1.000	0.369	YES
IP	0.999	0.997	0.279	YES
RE	0.999	0.999	0.223	YES
SU	0.999	0.998	0.811	YES
TT	0.999	0.997	0.947	YES
MICOM Step 3a				
Construct	Difference of Composite´s mean value (=0)	95% Confidence Interval	p-value	Equal mean values?
DI	-0.004	(-0.158 , 0.153)	0.105	YES
IP	-0.004	(-0.161, 0.149)	0.372	YES
RE	0.000	(-0.157, 0.158)	0.136	YES
SU	-0.005	(-0.167, 0.159)	0.356	YES
TT	-0.004	(-0.171, 0.148)	0.110	YES
MICOM Step 3B				
Construct	Difference of Composite´s mean value (=0)	95% Confidence Interval	p-value	Equal mean values?
DI	0.006	(-0.285 , 0.285)	0.001	YES
IP	0.001	(-0.306, 0.282)	0.123	YES
RE	-0.004	(-0.263, 0.264)	0.000	YES
SU	0.006	(-0.264, 0.29)	0.018	YES
TT	-0.001	(-0.261, 0.256)	0.007	YES

DI: Digitalization, IP: Inst.Pressure, RE: Resilience, SU: Survival, TT: Tech.Turbulence.

In Step 2, we obtained confidence intervals based on permutations that allow us to assess whether a composite has a correlation in the Family Firm (F) Group and the NonFamily Firm (NF) Group that is considerably below one. It does not appreciably fall below one, confirming the compositional invariance. In Step 3, we may determine if the mean value of a composite and its variance differs between groups using permutation-based confidence intervals for the mean values and variance. These results are crucial to determine whether total or partial measurement invariance has been achieved. In our situation, complete invariance can be confirmed.

7.5.3 Multigroup Analysis (MGA).

Table 36 shows the results of a multigroup analysis with PLS-MGA using permutations. Using multigroup analysis enables testing whether family and nonfamily groups of data exhibit significant differences in their group-specific parameter estimates (e.g., external weights, external load, and path coefficients).

SmartPLS 4.0 (Ringle et al., 2022) reports results from three different approaches that are based on the bootstrapping results of each group (Sarstedt, Henseler, et al., 2011). As can be seen in Table 36, and Figures 16 and 17, for the case of a family business, the estimate of the effect of digitalization on survival is 0.813 indicating that the effect is stronger for the case of family businesses. To this extent, summarizing, the data show a statistically significant difference in the behavior of family and non-family businesses in terms of the effects of digitalization over survival, resilience over digitalization, technological turbulences over digitalization, and technological turbulences over resilience.

Table 36. Results of Multigroup (Family vs. Non-Family Firms) Analysis.

		Original (F)	Original (NF)	Original difference	p-value (F)	p-value (NF)
DI -> SU	H1	0.812	0.693	0.116	0.000	0.000
IP -> DI	H5	0.116	0.201	-0.087	0.061	0.001
IP -> RE	H6	0.218	0.017	0.196	0.008	0.785
RE -> DI	H4	0.365	0.367	-0.005	0.000	0.000
TT -> DI	H2	0.450	0.359	0.094	0.000	0.000
TT -> RE	H3	0.545	0.618	-0.067	0.000	0.000

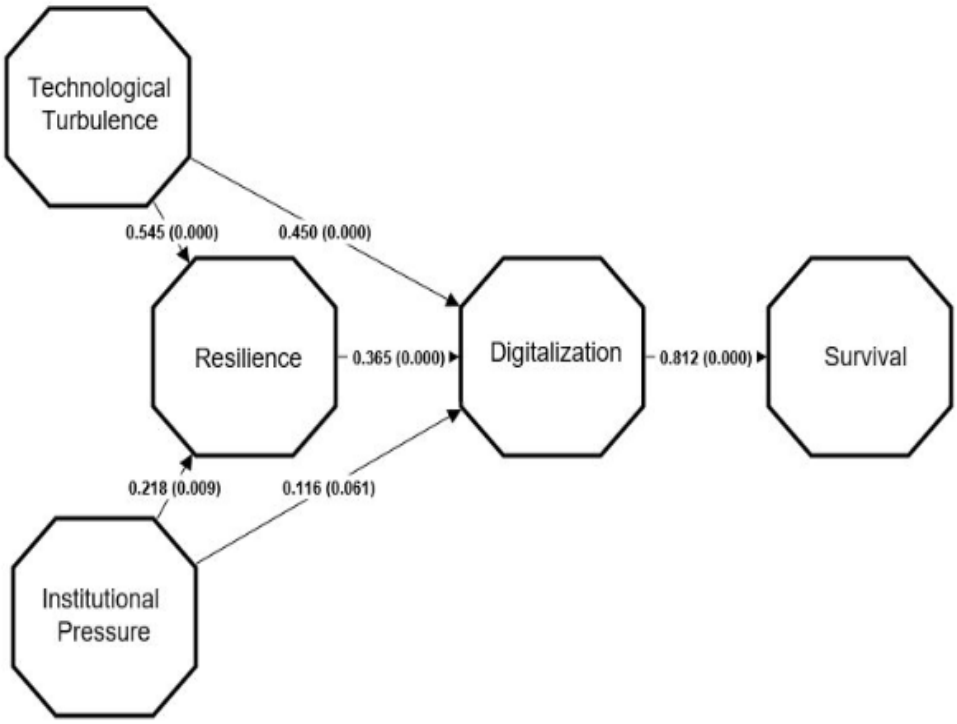


Figure 16 Structural Model of Family Path Coefficients with Significances.

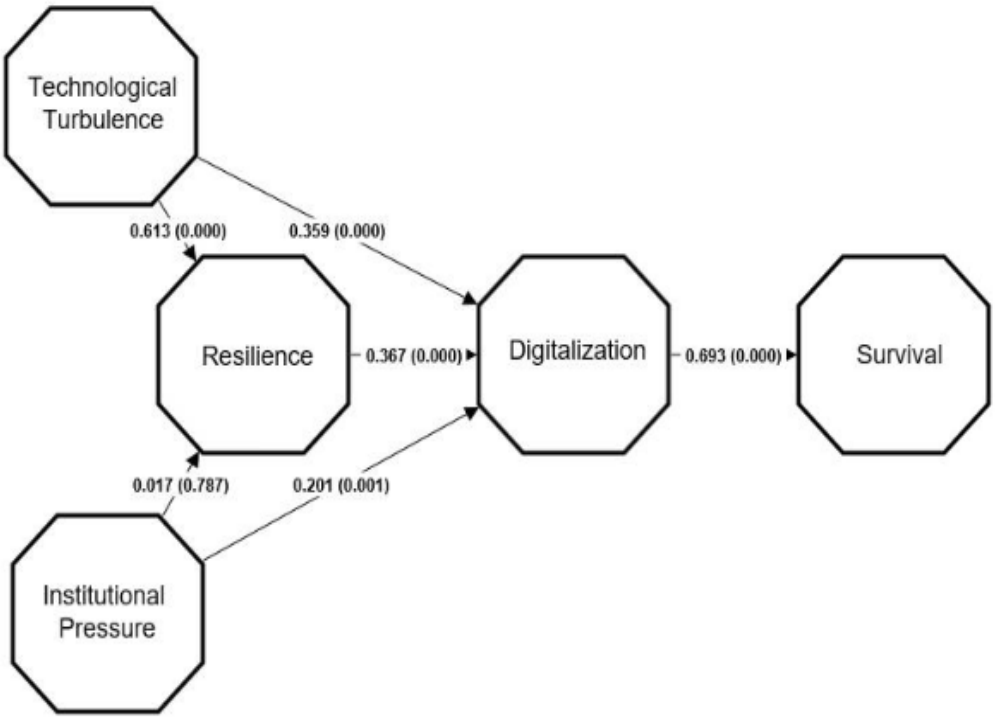


Figure 17 Structural Model of Non-family path coefficients with significances.

7.6 Discussion about the Effect of External Forces in Digitalization and Business Survival.

Digitalization has emerged as a crucial factor for business survival in contemporary times, particularly when faced with contingencies such as technological turbulence or institutional pressure (Trenkle, 2019). The present research, conducted during the COVID crisis, establishes the significance of digitalization in ensuring the endurance of businesses. Especially, the findings reveal that organizational resilience, institutional pressure, and technological turbulence are integral to the digitization process, which affects business survival.

Organizational resilience, conceptualized as adaptability, is an indispensable component in the digitization process. However, resistance to change or lack of adaptability can hinder decision-making processes or technology adoption, subsequently undermining strategic policies, and ultimately compromising the survival of a company (Chrisman et al., 2011). Decision-making processes are influenced by the business environment, specifically

institutional pressure and technological turbulence, which are driving forces in the digitalization process. Our findings substantiate the positive impact of organizational resilience on digitization, further confirming the direct, positive, and significant relationship between resilience, digitalization, and business survival.

In order to compare the effects of digitalization on family (F) and nonfamily (NF) businesses, we employed a multi-group analysis (MGA) and disaggregated the path coefficient data for both groups. The analysis indicates different path coefficients for each sample group, with the aim of discerning whether these differences are significant and meaningful. When examining the data, we observe slight variations in the effects of technological, resilience, and institutional pressures on digitalization in both groups. However, a stronger impact of digitalization on survival is evident in the case of family businesses.

These results underscore the commitment to long-term survival strategies of family businesses and suggest that they better adapt to environmental changes. In adverse situations, such as technological turbulence or institutional pressures, the implementation of digital transformation processes has a more significant effect on the survival of family businesses compared to nonfamily businesses.

The primary theoretical contribution of this study is the integration of digitalization and resilience artifacts into the family business survival model. By contrasting family and non-family businesses, the research demonstrates that although digitalization in response to external contingencies positively affects business survival, this effect is more pronounced in family businesses. These findings have practical implications for academics and entrepreneurs alike, as they reveal digitalization-related resource management behaviors in family businesses that can contribute to higher survival rates.

This study investigates the influence of environmental disturbances on firm digitization, with digitalization often imposed on businesses through institutional pressure or market-driven technological innovations. Our structural model

proposes that these effects can be direct or mediated through organizational resilience, defined as a firm's ability to adapt to change. The results indicate that digitalization can be achieved through environmental pressures, and the process is significantly facilitated when companies demonstrate resilience. Indirect effects suggest that addressing digitalization-enforcing shocks through resilience yields positive and significant outcomes.

Family businesses are the most prevalent organizational form in many economies, characterized by distinctive attributes that improve flexibility and efficiency of decision-making. Using the MGA-PLS technique, we applied our structural model to family-owned companies within our sample. The findings confirm that in family businesses, the relationship between digitalization achieved through resilience is stronger and equally significant, and the survival rate surpasses that of nonfamily businesses.

Consequently, this research suggests that in the face of business environment disturbances, structures such as family businesses might be better equipped to withstand market rigidities due to their adaptive capacity. However, more research is needed to explore other types of disturbance, such as inflation, worker strikes, transport strikes, and challenges in the supply of raw materials.

CHAPTER 8.
Conclusions, Limitations, and Future Lines of Research.

As this investigation approaches its conclusion, we must bring together the main discoveries, theoretical contributions, and practical implications that have developed during the course of this investigation. The next part, appropriately named the Conclusion, serves as a compilation of these essential aspects, providing a unified summary that seeks to capture the core of the study. This part will not only review the study questions and hypotheses but will also outline the broader implications of the findings for academics and practitioners in the business world. Furthermore, it will address the weaknesses of the current study and suggest areas for further research. In doing so, the conclusion aims to give a comprehensive overview of the research environment, achieving the main goal of the study of contributing to the field.

8.1 A Summary to our Initially Posted Research Questions.

In the first stages of this thesis, we formulated the research questions as follows:

1. What are the main internal and external digitalization drivers?
2. How do external drivers, such as consultancy and coercion (forced digitalization), influence the digitalization of the firm?
3. What role do consulting services play in the digitalization process?
4. Does forced digitalization positively influence organizational performance and business survival?
5. Taking into account that family firms are the most extended type of firm worldwide, what is the role of digitalization in family businesses compared to nonfamily businesses? And, is resilience the cornerstone to explain a family firm's best performance?

After conducting an in-depth assessment, we are able to provide a concise answer to these problem statements.

1. What are the main internal and external digitalization drivers?

- **Institutional pressure (External Driver)** is a crucial driver, more so when it arises from the public sector in the form of economic policies. In most cases, coercive actions are used to enforce the execution of laws orientated to force digital transformation.

- **Consultancy Services (External Driver):** These are very useful in assisting businesses, especially smaller ones, in navigating the digital transformation process. They work as facilitators and catalysts in adopting new technology.

- **Organizational Resilience (Internal Driver):** An organization's resilience in the face of environmental disruptions and technological changes has a major impact on its capacity to embrace digitalization.

- **Learning Orientation and Absorptive Capacity (Internal Drivers):** These characteristics are critical in assessing a company's preparedness and performance in adopting digital transformation.

2. How do external drivers, such as consultancy and coercion (forced digitalization), influence the digitalization of the firm?

External drivers, such as consulting and institutional pressure, have a significant impact on the process of business digitization.

- **Consultancy:** In response to institutional pressure, consulting services play a crucial role in assisting businesses through the digitalization process. They serve as intermediaries and facilitators in the implementation of digital transformations.

- **Coercion:** Public administration-developed policies and instruments, which have the potential to be coercive, are said to be more effective when put into practice with consulting assistance. The presence of institutional pressure, even if it is regarded as coercive, has a role in facilitating effective digitization processes.

3. What role do consulting services play in the digitalization process?

Consulting services play a crucial role in the process of digital transformation.

- They function as an core intermediary connecting the organization with emerging technical breakthroughs, hence aiding the integration of digital changes.

- The function of consulting is of utmost importance in the interpretation of institutional pressures and the subsequent translation of these pressures into practical strategies for the purpose of digital transformation.

- Additionally, they play a crucial role in enhancing corporate performance by providing guidance to organizations on how to properly integrate digitalization.

4. Does forced digitalization positively influence organizational performance and business survival?

- The enforcement of forced digitalization, while initially thought of as an act of coercion, has been shown to have a beneficial influence on both the performance and long-term survival of businesses.

- Forced digitalization speeds up the process of digital transformation, which is crucial for maintaining a competitive edge. The findings from this

research suggest that the process of digitalization, particularly when implemented under pressure, has the potential to be classified a component that helps explain the ability of businesses to survive. This effect is especially important when mediated by components like resilience and knowledge absorptive capacity.

5. Taking into account that family firms are the most extended type of firm worldwide, what is the role of digitalization in family businesses compared to nonfamily businesses? And, is resilience the cornerstone to explain a family firm's best performance?

In the context of family businesses, the digital transformation has a greater impact when compared to non-family businesses.

- **Family businesses** have a more significant relationship between the process of the digital transformation and the long-term viability of the business. Family-owned businesses have been shown to exhibit more adaptability in response to changes in their external environment. Furthermore, the implementation of digital transformation initiatives has been found to have a more pronounced influence on the long-term viability and sustainability of these organizations.

- **Non-Family firms:** Although digitization is likewise of significant importance, its influence on the survival of non-family firms is somewhat less obvious when compared to family-owned businesses.

- **Resilience** develops as a crucial distinguishing factor inside family firms, as it enhances their ability to endure external challenges and adapt to market changes by means of digital transformation.

In the following sections, we will provide more details on the aforementioned findings, while also considering their implications for academics, practitioners and public sector.

8.2 Consultancy as a Digitalization and Performance Driver.

The digital transformation of the firm represents a challenge for many small companies. The adoption and assimilation of certain technologies or the implementation of new processes require resources that not all companies can afford. The results reveal that consulting from the perspective of institutional pressure provides significant insight into digital transformation and, in a subordinate way, into business performance. The role of the consulting sector in the adoption of certain digital transformations imposed by the environment is a spur to digitalization itself and business performance. This research makes important contributions to different sectors.

8.2.1 Public-Private Sector Sphere.

Institutional pressure is a resource for the public sector in the development of its economic policies in the private sector. IP represents a justification, in terms of rationale, for certain digitization policies that make use of coercive tools for their implementation. One of the first conclusions and scopes of this research, in the institutional field, is that the policies and instruments developed by the Administration will always be more efficient when they are implemented with the help of consultancy. Consequently, we can say that institutional pressure should always be accompanied by the support of consulting services. The establishment of incentives, within the Programs and Legislative Instruments themselves, for the hiring of consultancy services is a boost for the implementation of those Instruments.

8.2.2 Academic- Practitioner Sphere.

Relevance is '… a function of the degree to which research focuses on factors that managers can influence and examines effects that are of interest to managers'. (Varadarajan, 2003, p. 368). This research is valuable to managers in several ways. First, we have accepted the hypothesis that institutional pressure favors digitalization. Despite the criticism that firms face from public

administrations for forcing them to adopt certain technologies (in the administrative, environmental, and production areas, etc.), we have been able to observe that they contribute efficiently to digitalization. Based on this, managers should view certain policies as an opportunity for value creation, rather than as an imposition. Second, we have also accepted that the consulting sector is an important factor in the digitalization process of the company. We have identified the existence of an institutional-consulting-digitization relationship that may reveal how digitization is most efficiently achieved through professional services firms. We have also found that both the role of consulting and the role of digitization have a positive impact on performance. This circumstance means an important support for the consulting firms that on many occasions see their fees questioned in terms of their cost-effectiveness.

Although institutional pressure was not accepted as having a direct effect on digitization, through the study of indirect effects, the hypothesis could be accepted. Institutional pressure has a positive effect on digitalization when its effect is studied through consulting, which makes us understand the role of consulting as a driver of technological change in companies. Segmentation carried out through a FIMIX study confirmed the very aligned data.

8.3 Forced Digitalization as an Explanatory and Mediation Variable of Business Survival.

This study aimed to analyze digitalization as an explanatory and mediator variable of business survival. The existing literature establishes learning orientation, knowledge absorption capacity, and resilience as explanatory variables of digitalization (Calantone et al., 2002; Cohen & Levinthal, 1990; Marino-Romero et al., 2022; Zhang et al., 2021). Taking these premises as a starting point, we analyzed whether these variables were equally explanatory of survival as digitalization. The importance of studying this question lies in the extension of the model proposed in the literature, which is more far-reaching than the original one. It would imply accepting the above three variables as mediators of digitization and business longevity.

Digitalization and subsequent digitalization of specific processes can enhance business survival, facilitating its adaptation to its sector's strategic and technological changes (Ghobakhloo & Fathi, 2020). This digitalization process will be more easily developed if the company has better skills to integrate these technological capabilities into its operations.

Digitalization can be conceptualized as a process conducive to survival (Audretsch & Mahmood, 1995). In our research, through a PLS analysis and necessary condition analysis, we reached different outcomes related to digitalization, survival, and the size of companies.

Our study, which covers all economic sectors represented in the economy, endorses the traditional model, which states that learning orientation (LO), knowledge absorptive capacity (CA), and business resilience (RE) are explanatory factors of digitalization. Confirmation of our hypotheses H1, H3, and H5, with significance below 0.01, confirms this. We have also confirmed the hypothesis that digitalization is an explanatory variable for business survival.

Our research advances the model proposed by extension of the previous hypotheses to business survival. The above variables (LO, CA, and RE) are not only explanatory variables of digitalization but also constitute a proxy for the explanation of longevity in firms. Our model confirms that CA and RE represent explanatory variables of organizational survival (H2 and H5), both significant. This is not the case for LO, which, although considered a significant variable to explain the digitalization variable, is not significant for survival. The reason for this is that although learning-oriented companies seek through digitization (H1) greater knowledge of their environment (customers, suppliers, production processes,...) (Calantone et al., 2002), this orientation does not always culminate in survival because the result of this orientation does not always have to be successful, unlike the absorptive capacity, which always is. The difference is that one process is a priori (orientation) and the other process is a posteriori (absorption), so the

latter is guaranteed to be successful because the company will not import an unproven technological process, while learning is a riskier process. Organizational resilience was another factor analyzed in this investigation. We consider that the company must have the learning absorptive capacity and orientation and that once it has achieved the knowledge to implement it in the organization, it must also want to do it. Resistance to change, as a lack of resilience or adaptation, can delay decision-making processes or the adoption of specific technologies, failing strategic policies, and, therefore, in the company's survivability. After the previous considerations and according to our research, resilience, and digitalization are the necessary primary conditions for business survival in turbulent times.

Size matters when considering survival and digitalization. Our research concludes a positive and significant relationship between business size, survival, and digitization. Furthermore, the study of this variable through its indirect effects on resilience shows that the effect of digitization on business survival is more remarkable when this relationship depends on the company's resilience. Therefore, when companies have resilience, the effects of digitization and business survival are more extraordinary, as shown in the analysis of the indirect effects represented in this research.

The study of the necessary condition also supports the previous conclusions made by analyzing indirect effects. It confirms the importance of resilience as an explanatory component of survival and also confirms digitization as a necessary condition.

8.3.1 Implications for Practitioners and Policymakers.

This study has important implications for lawmakers and practitioners. First, the data show that companies that place innovation, absorptive ability, and endurance at the top of their list of priorities are more likely to make it through tough times. So, practitioners should think about spending money on technology

and training their workers to better understand and use the information they have gained from other sources. Furthermore, building a resilience mindset helps businesses adapt and respond well to change.

Policymakers should think about making programs that encourage digitalization stronger. For example, they could offer incentives for companies to invest in technology or create courses to help workers improve their digital skills. It may also be good for businesses to have rules that make it easier for people to build absorptive capacity and resilience, such as giving people access to training and tools. Lastly, lawmakers might want to think about the size of businesses when making rules, since our study shows that small and medium companies might need extra help to become resilient and last in a digital world.

8.4 Resilience as a Corporate Differentiation Strategy in the Face of Forced Digitalization.

Digitalization has emerged as a crucial factor for business survival in contemporary times, particularly when faced with contingencies such as technological turbulence or institutional pressure (Trenkle, 2019). The present research, conducted during the COVID crisis, establishes the importance of digitalization in ensuring the endurance of businesses. Especially, the findings reveal that organizational resilience, institutional pressure, and technological turbulence are integral to the digitization process, which affects business survival.

Organizational resilience, conceptualized as adaptability, is an indispensable component in the digitization process. However, resistance to change or lack of adaptability can hinder decision-making processes or technology adoption, subsequently undermining strategic policies and ultimately compromising the survival of a company (Chrisman et al., 2011). Decision-making processes are influenced by the business environment, specifically institutional pressure and technological turbulence, which are driving forces in the digitalization process. Our findings substantiate the positive impact of

organizational resilience on digitization, further confirming the direct, positive, and significant relationship between resilience, digitalization, and business survival.

In order to compare the effects of digitalization on family (F) and nonfamily (NF) businesses, we employed a multi-group analysis (MGA) and disaggregated the path coefficient data for both groups. The analysis indicates different path coefficients for each sample group, with the aim of discerning whether these differences are significant and meaningful. When examining the data, we observe slight variations in the effects of technological, resilience, and institutional pressures on digitalization in both groups. However, a stronger impact of digitalization on survival is evident in the case of family businesses.

These results underscore the commitment to long-term survival strategies of family businesses and suggest that they better adapt to environmental changes. In adverse situations, such as technological turbulence or institutional pressure, the implementation of digital transformation processes has a more significant effect on the survival of family businesses compared to non-family businesses.

The primary theoretical contribution of this study is the integration of digitalization and resilience artifacts into the family business survival model. By contrasting family and non-family businesses, the research demonstrates that although digitalization in response to external contingencies positively affects business survival, this effect is more pronounced in family businesses. These findings have practical implications for academics and entrepreneurs alike, as they reveal digitalization-related resource management behaviors in family businesses that can contribute to higher survival rates (Herrero et al., 2017).

This study investigates the influence of environmental disturbances on firm digitization, with digitalization often imposed on businesses through institutional pressure or market-driven technological innovations. Our structural model proposes that these effects can be direct or mediated through organizational resilience, defined as a firm's ability to adapt to change. The results indicate that

digitalization can be achieved through environmental pressures, and the process is significantly facilitated when companies demonstrate resilience. Indirect effects suggest that addressing digitalization enforcer shocks through resilience yields positive and significant outcomes.

Family businesses are the most prevalent organizational form in many economies, characterized by distinctive attributes that improve flexibility and efficiency of decision-making. Using the MGA-PLS technique, we applied our structural model to family-owned companies within our sample. The findings confirm that in family businesses, the relationship between digitalization achieved through resilience is stronger and equally significant, and the survival rate surpasses that of non-family businesses.

Consequently, this research suggests that in the face of business environment disturbances, structures such as family businesses might be better equipped to withstand market rigidities due to their adaptive capacity. However, more research is needed to explore other types of disturbance, such as inflation, worker strikes, transport strikes, and challenges in the supply of raw materials.

8.5 Limitations and Future Research Agenda.

8.5.1 Lack of Literature on the Subject.

The constraint of a lack of literature on the subject of digitization in consulting services is especially noteworthy. Due to the early stages of academic investigation into the issue, the study was forced to employ a methodological approach that includes theoretical frameworks and empirical data from various fields of study that are relevant to the topic at hand. Although this method is practical and moves the study forward, it adds a level of difficulty that calls for further discussion.

The study goes into uncharted territory because there has not been much research on technology in professional services before. It is both a chance and a

problem. The chance is to give important new information about a topic that hasn't been studied much, which could lead to further study in the future. One problem is that there is not a lot of well-established literature on the subject. This makes it difficult to put data in context, check ideas, and compare results in the way that a larger body of literature on the subject would have allowed.

In conclusion, while the shortage of literature required a larger methodological approach, it also imposed limits that should be carefully examined when evaluating the study's findings and contributions. Future research would benefit from a more concentrated and specialized body of literature that can provide more nuanced and context-specific knowledge on digitalization in the consulting business.

8.5.2 Sample Size and Segmentation.

The lack of meticulous segmentation based on the economic and commercial sectors in the study adds another degree of complication to the restrictions. Digital transformation is not a one-size-fits-all occurrence; it varies greatly between industries due to a variety of factors such as the legal environment, consumer behavior, and technology infrastructure. For example, the speed and type of digitalization in the healthcare industry may differ significantly from that in the retail sector. Because there is no such segmentation, the study's conclusions are broader and may not adequately depict the complex variances in digitalization processes across various sectors.

This lack of sector-specific information can be especially constraining for practitioners and policymakers interested in understanding how digital transformation presents itself in their own domains. The study's suggestions may be less actionable for these stakeholders without this level of detail since they lack the sector-specific focus that may make the findings directly applicable to specific businesses.

In conclusion, while the study gives useful insights into broad trends and linkages in the field of digitalization, the study's sample size limits and lack of sector-based segmentation should be carefully examined when interpreting the findings. These variables limit the study's contributions and recommend caution in extrapolating its findings to other situations.

8.5.3 Cross-sectional Limits.

The methodological range of this study is limited by its use of cross-sectional data, especially when it comes to recording how the factors of interest change and interact with each other over time. Cross-sectional data gathered at a certain point in time paint a picture of the thing being studied. This method can be used for exploratory studies and to find trends or connections that already exist. However, it is not meant to track changes over time or to find out how one variable can affect another.

The time factor is very important when it comes to digitalization in consulting companies, where fast changes in technology and market demand are common. The study cannot look at how links between things like digital transformation, consulting jobs, and business success may change or shift over time because it does not have any continuous data. When it comes to the effects of external problems or disruptions, like economic downturns or public health issues, which can have time-sensitive effects on digital projects and business plans, this is especially true.

The cross-sectional structure of the data also makes it harder for the study to draw causal findings. Even though links between variables can be found, it is still not clear which way they point. For example, the study may find a link between the amount of consulting work and the speed of digital transformation, but it cannot say for sure that more consulting work speeds up digital transformation or that the other way around is true.

As a result, while cross-sectional data provide valuable initial insights and serve as a foundation for hypothesis generation, they do not allow for the nuanced understanding that a longitudinal study design would provide, allowing for the tracking of variables over time and the establishment of causal relationships.

8.5.4 Geographical Burdens.

The research carried out in this study is limited to a specific nation, which has consequences for the external validity and generalizability of the results. The significance of cultural norms, economic conditions, and legal frameworks in the digitalization scenario, particularly within industries such as advisory services, should not be underestimated. The characteristics of these variables frequently exhibit notable differences between countries, exerting influence not only on the speed but also on the character of digital transformation within enterprises.

Differences in cultural attitudes toward technology adoption, risk-taking, and innovation can vary significantly between nations, thus influencing the level of acceptance and flexibility toward digitalization projects. Similarly, other economic factors, such as the degree of industrialization, the presence of technology infrastructure, and market competitiveness, can have an impact on the specific manifestations of digitalization within a given country. Regulatory frameworks, including data protection regulations, intellectual property rights, and industry-specific standards, have the potential to promote or hinder efforts related to digital transformation. The existence of divergent frameworks across national borders introduces an additional level of complexity to the digitization process.

Considering the large number of factors at play, it is important to recognize that the results obtained from a study conducted inside a certain country may not be readily applicable to different national settings. The findings of this research provide vital additions to understanding digitalization in consultant services within the specific nation under study. However, it is important to exercise caution when applying these findings to diverse geographical contexts. Hence, further

examination across a broader geographical scope has the potential to yield a more thorough and generally applicable understanding of the phenomena being studied.

8.6 Futures Lines of Research.

The increasing integration of artificial intelligence (AI) and bots into numerous aspects of business activity has prompted scholarly interest in their role in the virtualization of consultant services. Future studies may investigate the deployment of AI algorithms and bots in many domains, including data analytics and client interactions, and examine the implications of this deployment on the efficiency and quality of advisory services.

The significance of trust in the acceptance of technology has been extensively studied; however, there is an increasing demand to comprehend the significance of distrust, particularly within the realm of developing technologies such as artificial intelligence (AI) and bots. Potential areas of future research could explore the impact of trust and distrust on the acceptability of these technologies between both consultation service providers and their clients. This inquiry might encompass an exploration of the interplay between trust and distrust, alongside other variables such as perceived utility and ease of use, which have been conventionally investigated under technology acceptance models.

Identification and validation of accurate and robust measurement variables for assessing both internal and external triggers of digital development in consultant services may constitute a crucial area of inquiry for future research endeavors.

Longitudinal studies are recommended for future studies to effectively capture the dynamic character of digitalization and its lasting impact on business survival.

By integrating these prospective avenues of investigation, future studies can provide a more holistic understanding of the complex dynamics of digitalization within the consulting industry. This encompasses not just technological breakthroughs such as artificial intelligence (AI) and bots, but also the psychological and cultural aspects, such as trust and distrust, that exert impact on the adoption of technology.

CHAPTER 9.
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CHAPTER 10.
Appendix.

10.1 Demographic Questionnaire.

The panelist will be asked the following FILTER questions in order to complete the questionnaire if the answer is affirmative:

D1. INDICATE YOUR AGE RANGE (SIMPLE SELECTION).

R1.	From 15 to 19	R5.	From 35 to 39	R9.	From 55 to 59
R2.	From 20 to 24	R6.	From 40 to 44	R10.	From 60 to 64
R3.	From 25 to 29	R7.	From 44 to 49	R11.	From 65 to 69
R4.	From 30 to 34	R8.	From 50 to 54	R12.	From 70 and over

D2. INDICATE YOUR SEX (SIMPLE SELECTION)

R1. Male R2. Female

D3. INDICATE YOUR PROVINCE OF RESIDENCE (SIMPLE SELECTION)

R1. Albacete
R2. Alicante/Alacant
R3. Almería
R4. Araba/Álava
R5. Asturias
R6. Avila
R7. Badajoz
R8. Balears,Illes
R9. Barcelona
R10. Bizkaia
R11. Burgos
R12. Cáceres
R13. Cádiz
R14. Cantabria
R15. Castellón
R16. Ceuta
R17. Ciudad Real
R18. Córdoba
R19. Coruña, A
R20. Cuenca
R21. Gipuzkoa
R22. Girona
R23. Granada
R24. Guadalajara
R25. Huelva
R26. Huesca
R27. Jaén
R28. León
R29. Lleida
R30. Lugo
R31. Madrid
R32. Malaga
R33. Melilla
R34. Murcia
R35. Navarra
R36. Ourense
R37. Palencia
R38. Palmas, Las
R39. Pontevedra
R40. Rioja, La
R41. Salamanca
R42. Tenerife
R43. Segovia
R44. Sevilla
R45. Soria
R46. Tarragona
R47. Teruel
R48. Toledo
R49. Valencia
R50. Valladolid
R51. Zamora
R52. Zaragoza

D4. INDICATE YOUR LEVEL OF EDUCATION (SIMPLE SELECTION)

R1. No Education
R2. Primary Education.
R3. Secondary Education (ESO).
R4. Baccalaureate.
R5. Vocational Training (FP).
R6. University education.

P1 INDICATE THE OCCUPATION YOU PERFORM (SIMPLE SELECTION)

FILTER QUESTION. ONLY R1 and R2 RESPONDANT WILL FOLLOW WITH THE QUESTIONNAIRE.

R1. Owner or partner
R2. President/CEO
R3. Middle management
R4. Manager/Chief Financial Officer
R5. Senior Management
R6. Manager/Chief Technical Officer
R7. Director
R8. Financial Manager/Director
R9. Building Manager/Director
R10.Facilities Manager/Director
R11.Manager
R12.Manager/director, health services
R13.Manager/director of hospitality, retail
R14.Systems analyst
R15.Manager/director of production/
R16.Chief Information Officer
R17.Other

P2 WHAT EMPLOYEE SEGMENT IS YOUR COMPANY? (SIMPLE SELECTION)

R1. NO workers
R2. 1 to 10 workers
R3. 11 to 50 workers
R4. 51 to 250 workers
R5. More than 250 workers

P3. SPECIFY THE SECTOR IN WHICH YOUR ACTIVITY FALLS. (SIMPLE SELECTION)

R1. Agriculture, livestock, and/or fishing
R2. Construction
R3. Industry
R4. Services

P4. SERVICE PROVIDERS, SELECT YOUR CATEGORY.

ONLY ANSWERS TO R4 IN Q3 CAN COMPLETE THIS FILTERING QUESTION.

R1. Transport and storage.
R2. Hotels and restaurants.
R3. Information and communications.
R4. Real estate activities.
R5. Professional, scientific, and tech activities.
R6. Administrative and support service.
R7. Artistic, recreational, and training.
R8. Other services.

P5. IS YOUR COMPANY A FAMILY BUSINESS?

R1. Yes
R2. No

P6. HOW OLD IS YOUR COMPANY IN YEARS?

R1. [1-2]
R2. [3-4]
R3. [5-6]
R4. [7-8]
R5. [9-10]
R6. [11-12]
R7. [13-14]
R8. [15-16]
R9. [17-18]
R10. [19-20]
R11. More than 21

P7. HAVE YOU RECEIVED DIGITALIZATION SUBSIDIES?

R1. Yes
R2. No

Only participants who have replied with "R1" and "R2" in the P1 question will proceed with the completion of the following questionnaires.

10.2 Research Questionnaire.

Please indicate your level of agreement or disagreement with the following statements, considering that the digitalization of a company refers to the utilization of technology to enhance the company's operations, with the aim of improving or establishing business processes in order to augment the company's value. Please provide your response on a scale ranging from 1 to 7, where

1 indicates complete disagreement,
2 indicates a strong disagreement,
3 indicates disagreement,
4 indicates neutrality,
5 indicates agreement,
6 indicates a partial agreement, and
7 indicates complete agreement.

INSTITUTIONAL PRESSURE (IP)

IP1	Our competitors have greatly benefited from the incorporation of digital innovations into their products and/or procedures.
IP2	Companies in our industry that introduce digital innovations are viewed more favorably by the market.
IP3	The Public Administrations have compelled us to implement Digital Innovations in our business.
IP4	The industry in which we operate has compelled us to implement digital innovations.
IP5	The incorporation of digital innovations within the organization was essential for the enhancement of supplier management processes.
IP6	Customers require our business to implement new digital innovations and technologies.
IP7	Public administrations have been a driving and accelerating factor in our company's digitization.

CONSULTORÍA (CO)

CA1	La integración de consultores y profesionales externos en la empresa facilita la innovación y transformación digital.
CA2	Los servicios de consultoría externa contribuyen a una toma de decisiones más ágil y eficiente.
CA3	Las empresas de consultoría son buenos transmisores de la innovación y la digitalización de la industria a la empresa y de la empresa al cliente.
CA4	Las empresas externas ayudan a las empresas a mejorar sus procesos productivos mediante la implantación de nuevas tecnologías.
CA5	En mi empresa no hubiera podido integrarse la tecnología eficientemente si no hubiera sido por la presencia de consultores externos.
CA6	Los costes de consultoría son ampliamente compensados con los beneficios obtenidos por su trabajo.
CA7	La transformación digital de mi empresa no hubiera sido posible sin la ayuda externa.
CA8	El trabajo colaborativo con empresas externas mejoran los procesos productivos de la empresa.

DIGITALIZATION (DI)

DI1	Our organization accepts and quickly adapts to innovations.
DI2	We are always looking for opportunities to use technology in our processes.
DI3	We market and sell our products and services through digital channels.
DI4	We use digital channels to provide better customer service.
DI5	Our central services (invoicing, accounting, customer support,...) are automated.
DI6	We use digital technologies to increase the performance or added value of our existing products and services
DI7	We have launched a new business model based on digital technologies.

PERFORMANCE (PE)

PE1	We are very pleased with the growth of sales in our company.
PE2	The growth of profits in our company is positive.
PE3	The market share of our company in the sector is satisfactory.
PE4	The speed of marketing of our products/services is good.
PE5	Our penetration rate is good.
PE6	The market valuation of our company is very satisfactory.
PE7	My company has a very satisfactory turnover.
PE8	The return on our investments is good.

ABSORPTIVE CAPACITY (CA)

CA1	The company encourages the exchange of information and experience with other companies within our sector.
CA2	In the company, new employees are encouraged to develop and use their experience from their previous companies.
CA3	My company has a clear division of functions and responsibilities where the use of new technologies in its operations is a priority.
CA4	The organization has the technological resources necessary to implement the new knowledge and technologies acquired better than its rivals.
CA5	Our company uses tools (e.g. intranet, internal studies/reports) to disseminate knowledge throughout the organization.
CA6	The management of the company supports temporary staff exchange between departments to improve learning.
CA7	The management regularly performs technological awareness surveys and can absorb, adapt, and employ various technologies.

RESILIENCE (RE)

RE1	We recovered easily from the problems (lack of raw materials, rising prices,...)
RE2	Our sales are not affected by the environment: COVID, IPC,...
RE3	We can provide a quick response to customer demands or supplier problems.
RE4	We quickly adapt to changes in demand.
RE5	We quickly adapt our treasury and resources to the needs of the company.
RE6	We quickly adapt our products or services to the needs of our customers.
RE7	We are looking for a quick and effective solution to labor problems.
RE8	We constantly renew our processes to improve efficiency
RE9	My company is now more efficient than before COVID.

LEARNING ORIENTATION (LO)

LO1	I am willing to select a challenging job assignment from which I can learn a lot.
LO2	I often look for opportunities to develop new skills and knowledge.
LO3	I enjoy challenging and challenging tasks at work where I will learn new skills.
LO4	Training and learning help us to cope with business risk situations.
LO5	Over the past three years, my firm has gained and applied numerous new and important skills (e.g. technological expertise) to gain a competitive edge.
LO6	In the previous three years, new information (e.g. technology knowledge) has driven company improvements.
LO7	My company is an organization that promotes learning.

TECHNOLOGICAL TURBULENCE (TT)

TT1	Technology in our sector is changing rapidly.
TT2	Technological changes provide substantial opportunities in this industry and sector.
TT3	A large number of new product ideas have been made possible thanks to technological advances in this industry.
TT4	It is very difficult to predict where technology will be in this area in the coming years.
TT5	Our company constantly updates our software and hardware to the changes in the environment

SURVIVAL (SU)

SU1	My company has successfully weathered the COVID crisis.
SU2	My company is in a good position to cope with any future economic crisis.
SU3	My company has the ability to withstand the challenges arising from the COVID crisis.
SU4	Sales volume dropped in the last year due to the COVID-19 pandemic, but we rebounded stronger.
SU5	Digitalization has helped reduce the impact of the COVID crisis on our processes.
SU6	Digitalization made it possible to adapt our workforce to stay in business.
SU7	Our consultants played an important role in the face of the COVID crisis.
SU8	Consulting represents an important source of help for the company in a period of crisis.
SU9	The longevity of the company is more important than profits.
SU10	The company would be able to survive a new crisis of any kind: energy, inflationary,