To mum and dad,
who support me always.
Thanks for everything.

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BACHELOR DEGREE IN BUSINESS AND MANAGEMENT

Merging Tradition with Innovation: The Digital Transformation of SMEs in Italy – The Case of Gerardo Sacco & C. Srl

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Introduction

In a parallel world among modernity and tradition, myth and innovation; the return game of a population that seems to have been forgotten. But it hasn't been forgotten by the artist Gerardo Sacco, which jewels have brought forward a heritage centuries old.

This thesis explores the possibilities of digital transformation on small and medium-sized enterprises (SMEs), particularly the case of Gerardo Sacco & C. Srl. Each chapter delves into different aspects of this transformation journey, offering a comprehensive view of the risks and advantages faced by SMEs in the context of the digital age.

Chapter 1 introduces the concept of digital transformation (DT), discussing how technology has disrupted traditional business models and consumer behavior. It explains key terms such as digitalization and Industry 4.0 and highlights the difficulties that SMEs face in adapting to these changes.

Chapter 2 narrows the focus to the Italian luxury fashion sector, especially the "Made in Italy" brand. It explains how digital tools help SMEs in this sector enhance their brand presence globally. The chapter also presents a case study of Gerardo Sacco, a jewelry brand rooted in Italian craftsmanship, which has embraced digitalization to expand its market reach and maintain its artisanal identity.

Chapter 3 shifts to practical strategies and guidelines for SMEs embarking on their own digital transformation. Using insights from Gerardo Sacco's digital journey, the chapter provides a roadmap for overcoming common barriers and leveraging digital tools to foster innovation and competitiveness.

In conclusion, this thesis provides a blend of theoretical insights and practical case studies to demonstrate the critical role of digital transformation in shaping the future of SMEs in Italy's luxury sector.

Chapter 1. Exploring Digital Transformation

"Digital transformation is not a possibility but a necessity to keep up with market changes."

Older generations often claim that the younger ones have been ruined, "disrupted" by cell phones, the Internet, and technology, perceiving a change in them caused by digitalization. Indeed, they are right: digitalization has led to a clear transformation in behavior and habits, especially among the young who are more prone to change. However, this *change* has affected not only the youth but also businesses, which have assisted to the disruption of their traditional business models. According to this, digital transformation is considered *disruptive*, as it has profoundly impacted consumer behavior and expectations, the competitive landscape, and the availability of data.

This revolution is filtered through the prism of VUCA, which expresses the characteristics of DT:

- Volatility, exponential speed of change
- Uncertainty, of the future
- Complexity, learning ability of technologies
- Ambiguity, replies of the real world

The characteristics of DT express also the concept that the world has taken a one-way towards the digital era, with no return possibilities.

Apparently, Tim Berners-Lee, the creator of the Internet, regrets not being aware of this when he made his creation, recalling of it as a "large-scale emergent phenomenon which is anti-human".

1.1 Understanding the definitions

Digital, DT and digitalization cannot be considered either good or bad, it is sure that they influence the world in its entirety, so it must be making a proper use of it.

Indeed, a good starting point is the distinction among the three:

- *Digital*: “designating of data, images, sounds, etc. that are stored, transmitted, manipulated, or reproduced by a process using groups of electronic bits represented as 1 or 0”. (“DIGITAL definition in American English - Collins Online Dictionary”) [1]

Figure 1 - Apollo Guidance Computer (1969)

Source: https://wehackthemoon.com/,

Figure 2 - Smartphone is a today’s device of a capacity of thousands of MBs.

Source: apple.com

At the time of Apollo 11 (1969), storing one MB of data cost $1 million. Today, it costs just $0.00001. Dimensions have visibly changed, note the differences shown in Figure 1, Figure 2. [2]

[1] A bit is the smallest unit of memory

[2] The progression from the Apollo Guidance Computer of 1969 to the iPhone 13 Pro indicates impressive strides in speed, memory, and processing power in digital technology. The AGC was a relatively slow machine which ran at a speed of 2.048 MHz; it had 30,720 bits of RAM and 552,960 bits of ROM that could handle 15-bit words for simple navigational commands or operations regarding guidance control. On the one hand, the iPhone 13 Pro has 48 billion chips of 6 GB (48 billion bits), 8TB (8 trillion bits) storage maximum, and runs at speeds of 3.1 GHz utilizing 64-bit words. It is an advancement from sluggish limited processing and storage that used to exist to something faster and bigger- computations in real-time, HD media streaming services among others.

- *Digitalization*: easy mistakable for *digitization* – which is converting physical or analog information into a digital format – use of digital tech to enhance operational processes, create new revenue and new opportunities.
- *Digital Transformation*: there are many definitions, reported in Table 1.[3]

[3] *Table 1 – Definition of DT*

The use of technology to radically improve performance or reach of enterprises.	Westerman et al. (2011) Westerman et al. (2014) Karagiannaki et al. (2017)	Conflation between the concept and its impacts.
The use of new digital technologies (social media, mobile, analytics or embedded devices) to enable major business improvements (such as enhancing customer experience, streamlining operations or creating new business models). [emphasis original]	Fitzgerald et al. (2014) Liere-Netheler et al. (2018)	Unclear term: "digital technologies" defined using examples. Conflation between the concept and its impacts.
Digital transformation strategy is a blueprint that supports companies in governing the transformations that arise owing to the integration of digital technologies, as well as in their operations after a transformation.	Matt et al. (2015)	Unclear term: "digital technologies". Circularity ("transformation").
Digital transformation involves leveraging digital technologies to enable major business improvements, such as enhancing customer experience or creating new business models.	Piccinini et al. (2015b)	Unclear term: "digital technologies". Conflation between the concept and its impacts.
Use of digital technologies to radically improve the company's performance.	Bekkhus (2016)	Unclear term: "digital technologies". Conflation between the concept and its impacts.
Digital transformation encompasses both process digitization with a focus on efficiency, and digital innovation with a focus on enhancing existing physical products with digital capabilities.	Berghaus and Back (2016)	Unclear terms: "digitalization", "digital capabilities".
Digital transformation is the profound and accelerating transformation of business activities, processes, competencies, and models to fully leverage the changes and opportunities brought by digital technologies and their impact across society in a strategic and prioritized way.	Demirkan et al. (2016)	Unclear term: "digital technologies". Circularity ("transformation"). Conflation between the concept and its impacts.
Digital transformation encompasses the digitization of sales and communication channels, which provide novel ways to interact and engage with customers, and the digitization of a firm's offerings (products and services), which replace or augment physical offerings. Digital transformation also describes the triggering of tactical or strategic business moves by data-driven insights and the	Haffke et al. (2016)	Unclear term: "digitalization". Conflation between the concept and its impacts. Lack of parsimony.

launch of digital business models that allow new ways to capture value.		
Digital transformation is concerned with the changes digital technologies can bring about in a company's business model, which result in changed products or organizational structures or in the automation of processes. These changes can be observed in the rising demand for Internet-based media, which has led to changes of entire business models (for example in the music industry).	Hess et al. (2016)	Unclear term: "digital technologies". Conflation between the concept and its impacts. Lack of parsimony.
Use of new digital technologies, such as social media, mobile, analytics or embedded devices, to enable major business improvements like enhancing customer experience, streamlining operations or creating new business models.	Horlacher et al. (2016) Singh and Hess (2017)	Unclear term: "digital technologies" defined using examples. Conflation between the concept and its impacts.
Changes and transformations that are driven and built on a foundation of digital technologies. Within an enterprise, digital transformation is defined as an organizational shift to big data, analytics, cloud, mobile and social media platform. Whereas organizations are constantly transforming and evolving in response to changing business landscape, digital transformation are the changes built on the foundation of digital technologies, ushering unique changes in business operations, business processes and value creation.	Nwankpa and Roumani (2016)	Unclear term: "digital technologies" defined using examples. Circularity ("transformation"). Lack of parsimony.
Digital transformation is not a software upgrade or a supply chain improvement project. It's a planned digital shock to what may be a reasonably functioning system.	Andriole (2017)	Unclear term: "digital shock".
Extended use of advanced IT, such as analytics, mobile computing, social media, or smart embedded devices, and the improved use of traditional technologies, such as enterprise resource planning (ERP), to enable major business improvements.	Chanias (2017)	Unclear term: "advanced IT" defined using examples. Conflation between the concept and its impacts.
The changes digital technologies can bring about in a company's business model, which result in changed products or organizational structures or automation of processes.	Clohessy et al. (2017)	Unclear term: "digital technologies". Conflation between the concept and its impacts.
Distinguishes itself from previous IT-enabled business transformations in terms of velocity and its holistic nature.	Hartl and Hess (2017)	Circularity ("transformation"). Comparative definition ("previous IT- enabled business transformations")
Transformations in organizations that are driven by new enabling IT/IS solutions and trends.	Heilig et al. (2017)	Circularity ("transformation").

In 2019, Vial Gregory reviewed these interpretations through a semantic analysis and identified four key properties: the *target entity* (what is affected), the *scope* (extent of changes), the *means* (technologies used), and the *expected outcome* (result of changes). Then he made his own definition of DT as "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies", compatible with the

Digital transformation as encompassing the digitization of sales and communication channels and the digitization of a firm's offerings (products and services), which replace or augment physical offerings. Furthermore, digital transformation entails tactical and strategic business moves that are triggered by data-driven insights and the launch of digital business models that allow new ways of capturing value.	Horlach et al. (2017)	Unclear term: "digitalization". Conflation between the concept and its impacts. Lack of parsimony.
The best understanding of digital transformation is adopting business processes and practices to help the organization compete effectively in an increasingly digital world.	Kane (2017c) Kane et al. (2017)	Conflation between the concept and its impacts.
Digital transformation describes the changes imposed by information technologies (IT) to (partly) automatize tasks.	Legner et al. (2017)	Conflation between the concept and its impacts.
Digital transformation highlights the impact of IT on organizational structure, routines, information flow, and organizational capabilities to accommodate and adapt to IT. In this sense, digital transformation emphasizes more the technological root of IT and the alignment between IT and businesses.	Li et al. (2017)	Conflation between the concept and its impacts. Lack of parsimony.
An evolutionary process that leverages digital capabilities and technologies to enable business models, operational processes and customer experiences to create value.	Morakanyane et al. (2017)	Unclear term: "digital capabilities". Conflation between the concept and its impacts.
The use of new digital technologies, to enable major business improvements in operations and markets such as enhancing customer experience, streamlining operations or creating new business models.	Paavola et al. (2017)	Unclear term: "digital technologies". Conflation between the concept and its impacts.
Fundamental alterations in existing and the creation of new business models […] in response to the diffusion of digital technologies such as cloud computing, mobile Internet, social media, and big data.	Remane et al. (2017)	Unclear term: "digital technologies" defined using examples.

Source: Vial G., (2019). Understanding digital transformation: A review and a research agenda. Journal of Strategic Information System, 28 118-144.

previous definition of *digitalization,* comprehends individual, organizational and societal contexts[4,5].

In simpler terms, *digital transformation* is an essential change in value creation[6], that companies achieve by applying digital technologies[7] to all aspects of the business."

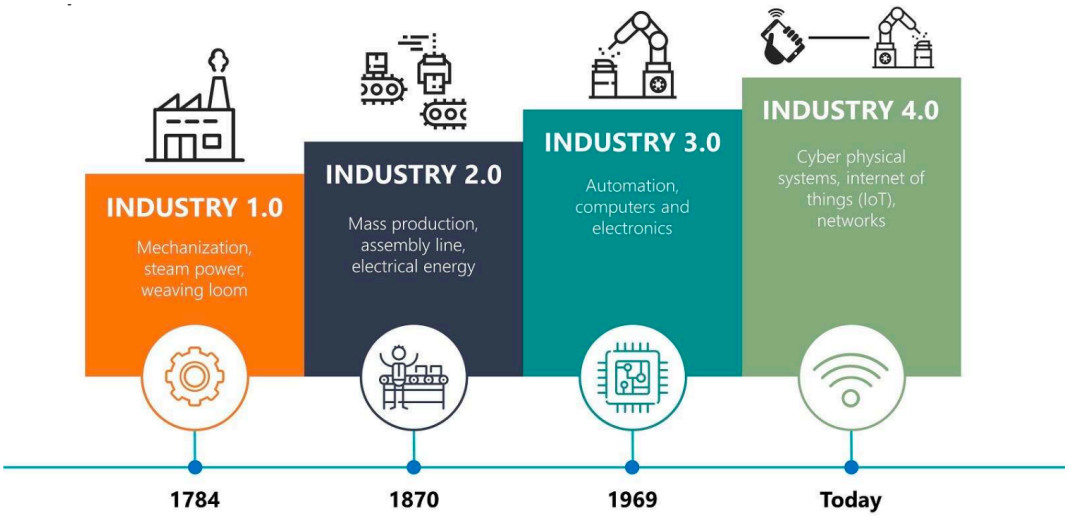
Indeed, it is possible to discern a digital inside point of view – gives insights on how technologies can be used to enhance organizations' production activities and supply chain – and a digital outside point of view – about the customer level.

1.2 Industry 4.0

Some companies who want to innovate need to transform their businesses and operations adopt I4.0 vision (many companies are in 2.0 or 3.0).

Industry 4.0 (I4.0) connotates the fourth industrial revolution and it can be defined as the integration of smart digital technologies in manufacturing processes.

Figure 3 – Why I4.0?



Source: Prof. Nicolas Neysen, Lecture notes. Hec Liège

[4] Legner et al., 2017:301

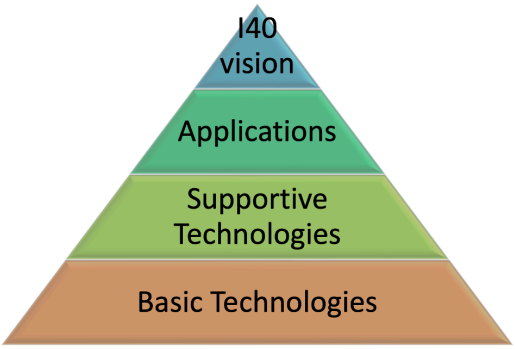
[5] According to the review, the definition recognizes improvement as a likely outcome of DT (no guarantee of achievement) (see Wacker, 2004:393). Intentionally avoid defining the means primitive using the term digital technologies.

[6] "Business improvements in operations and markets such as enhancing customer experience, streamlining operations or creating new business models."

[7] It is quite difficult to give a unique definition of digital technologies, but they are recalled as "electronic tools, systems, devices and resources that generate, store or process (treat and control) data".

In *Industry 4.0* technologies reach a level that overcomes the third-revolution realm of possibility with *disruptive* technologies: Additive Manufacturing; IoT; Big Data and Analytics; Artificial Intelligence (AI) and Machine learning (ML); Cloud computing; Blockchain; Virtualization.

Figure 4 - What is supporting I4.0 Vision?



Source: Professor's material.

With Industry 4.0, the marketplace expands globally, and products become highly customizable: manufacturing must adjust consequently.
This revolution marks a significant shift in the industry, as no previous revolution has been explicitly announced, it highlights a proactive and creative vision for the future. Industry 4.0 impacts not only consumer demand for end products but also the management, transportation, and production processes.

1.3 Digital Transformation in SMEs.

Organizations face consequently the problem to deal with the process of customer value creation – the consumers have grown into digitalization; they have become digital consumers – for which procedures are still not clearly defined and the literature on this matter is scarce.
This lack is particularly heavy on *Small Medium Enterprises (SMEs*), which – due to reduced resources (compared to Large Enterprises) – face more difficulties in adapting to market changes and integrating new technologies and processes in their business models.

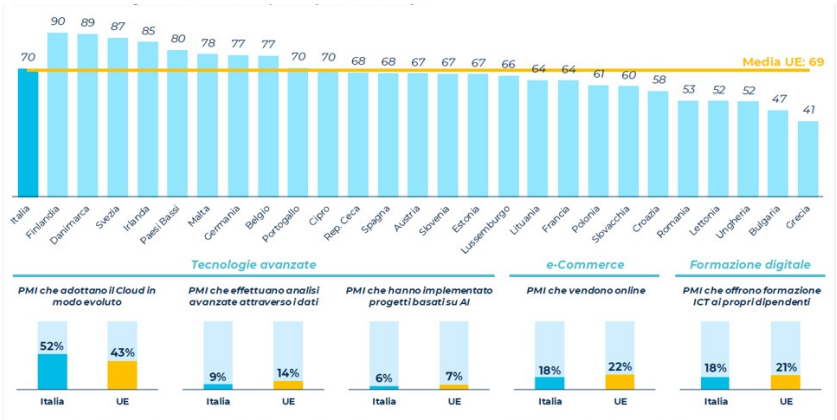
Table 2 – Classification of enterprises

Category	Total Assets	Net Sales Revenue	Average Number of Employees During the Year
Micro Enterprises	€450,000	€900,000	Up to 10
Small Enterprises	€5,000,000	€10,000,000 (formerly €8,000,000)	Up to 50
Small Enterprises (higher thresholds)	Not exceeding €7,500,000	Not exceeding €15,000,000 (formerly €12,000,000,000)	
Medium Enterprises	€25,000,000 (formerly €20,000,000)	€50,000,000 (formerly €40,000,000)	Up to 250
Large Enterprises	Over €25,000,000	Over €50,000,000	Over 250

Source: Direttiva (UE) 2023/2775 del 21 dicembre 2023

Data reported on DESI[8] indicate that the 70% of European Member States has a digital activity above the average, see Figure 5.

Figure 5 – SMEs with at least basic digital intensity (% of firms in the country)



Source: elaboration by the Digital Innovation Observatory in SMEs on data from the European Commission (Report on the state of the Digital Decade, 2023) and Eurostat (2021)

Nevertheless, data show weaknesses that reveal the incapacity of Italian's SMEs to integrate digital tools within corporate strategy rather than as an answer to a necessity. The limited adoption of advanced technologies is a clear indication. Despite 52% of Italian SMEs use cloud services in an advanced manner – surpassing the European average of 43% – only 9% conduct advanced data analysis (European average 14%) and

[8] Digital Economy and Society Index, (published on 27th of September 2023) from research of the European Commission,

less than 6% have implemented projects based on Artificial Intelligence (European average 7%).

So, European metrics demonstrate that the level of digitalization is lower in Italy compared to the other EU member states.

SMEs are fundamental in Italian's economy, about 4.3M of organizations outstanding which account for 80% of employment and 70% of value-added.

Due to this strong presence, innovation and digitalization of these companies is a priority to government.

Despite significant public intervention and support, Italian companies face persistent challenges in digitalization, especially for SMEs. These barriers are due to knowledge gaps in awareness and capabilities since Italian SMEs invest less in digitalization compared to their EU counterparts, resulting in lower adoption and sophistication of digital technologies and possess limited digital skills[9].

The fragmented offerings from large tech vendors and the substantial challenges faced by the latter hinder the effective provision of digital solutions. Furthermore, the availability of banking credit often acts as a barrier to digitalization for SMEs. While financial institutions do support access to resources, there is a lack of specific financial instruments tailored to digitalization.

1.3.1. Digitalization in SMEs: Challenges and Opportunities.

Thus, there is a knowledge gap that characterizes SMEs, many of which lack the competencies to understand the full potential of digital transformation (DT). These companies face financial constraints that limit their ability to hire external consultants or conduct audits, further exacerbating the shortage of specialized personnel capable of harnessing complex technologies to create value.

However, key elements involved in DT processes are not solely technological. SMEs often suffer from deficiencies in digital infrastructure, a lack of digitally skilled employees, and, crucially, a leadership mindset that is not fully aligned with digital innovation. This 'mindset gap,' where managers remain uncertain about the risks and potential outcomes of adopting new technologies, can be just as detrimental as the lack

[9] According to DESI 2022

of financial resources. Without a clear vision or confidence in DT, innovation is stifled, and companies remain trapped in outdated processes, unable to unlock the competitive advantages offered by digital transformation.

In terms of the stages of digital evolution, most SMEs are not yet at the full digital transformation stage. Rather, they are often stuck in the earlier stages of digitization, where they are focused on converting analog processes into digital form or optimizing existing workflows with basic digital tools.

The problem for SMEs is not only at the DT level but already at the simpler digitalization level. Without overcoming this foundational stage—where digital tools are integrated into daily operations—it becomes even more difficult for SMEs to transition to the advanced stages of digital transformation, which require a more sophisticated approach involving AI, machine learning, and data-driven decision-making. If SMEs fail to digitalize adequately, they risk falling behind competitors, losing market share, and missing opportunities for growth: in an increasingly digital economy, efficiency, customer expectations, and innovation are all driven by technology. Without digital tools, SMEs may struggle to scale operations, meet modern consumer demands, or remain competitive. This not only limits profitability but could also threaten the survival of businesses, especially in sectors like retail, manufacturing, logistics, and finance, where digitalization is crucial for optimizing processes and staying relevant. Ultimately, inadequate digitalization may lead to stagnation or even business failure.

Due to the earlier point, it is possible to identify a mismatch between supply and demand that limits the ability of small and medium-sized businesses to fully utilize digital tool such digital marketing tools and e-commerce platforms. Raising awareness about the significance of technology adoption for marketing and the potential opportunities it brings is essential. SMEs often face greater challenges than larger companies in attracting and retaining skilled employees. This difficulty stems from their smaller networks, limited ability to identify and access talent, and generally lower compensation and working conditions. Additionally, customized training tends to be more costly for SMEs due to their smaller workforce and the challenge of freeing up employees for training sessions.

So, Digital transformation represents a significant cultural shift pushing organizations to continuously challenge existing norms, embrace experimentation, and remain resilient in the face of early obstacles. *Inertia* and *resistance* to change represent one of the main barriers to digital transformation in SMEs, as companies are deeply rooted in their established relationships with customers and suppliers and in their optimized but rigid

production processes. This resistance often manifests among employees who resist new technologies (Vial, 2019). Additionally, many companies are not sufficiently aware of the benefits of digitalization and often consider it a lower priority compared to other business urgencies, with the lack of resources and time further exacerbating the situation. SMEs often have limited budgets and insufficient skills to adopt new technologies (Javaid et al., 2017). Many entrepreneurs are not well-informed about IT, due to their limited experiences or past successes (Zhang et al., 2018). Finally, SMEs take a gradual approach to digitalization compared to large companies, with investments depending on the financial performance of the businesses and resources often being limited (Bouwman et al., 2019; Gruber, 2019).

Digitalization doesn't come alone with risks but also with opportunities, which include lower costs of transactions, more efficient operations for delivery and supply of goods and services, reduced investment in ICT and increasing internationalization and inclusion into global markets.

Digitalization reduces waste drastically, especially that related to paper storage, which requires resources in terms of space and time. Digital documentation is accessible remotely (by cloud), thereby reducing costs and the use of physical archives (Metalcoop, 2018).

DT also offers new technological ways of interaction between the company and its customers, significantly improving customer satisfaction. Additionally, digitizing production reduces the risks of errors and downtime, eliminating bottlenecks (Caravati, 2019). Once new digital tools and necessary skills are assimilated, companies can achieve results more quickly. According to a Ricoh study in 2016, Italian companies that have adopted new digitalization technologies have seen benefits such as optimized customer service, reduced costs, and improved customer communications.

Technologies such as Artificial Intelligence (AI) and Internet of Things (IoT) can significantly transform the business models and operations of SMEs, leading to various positive impacts. Additionally, there are digital resources supported by federal and state governments that have become more accessible. Firms can now generate and analyze data in new ways to improve performance and access innovative assets.

According to an analysis from the *4th international conference on Industry 4.0 and Smart manufacturing* 10 systems are revealed to be the highest priority:

- Business Case Systems
- Digital Invoicing and cash flow

- Digital Web Creation
- Auto Marketing
- Market and technological scanning:
- International Marketing
- Order Management
- Digital Product identification
- Digital Technologies
- Document Management System (DMS)

The research team focused on designing and developing four key systems:

1. *Invoice Generator*: A free platform that enables SMEs to generate invoices, integrating project and customer information to streamline payments and tax reports.
2. *Business Case App*: This app allows users to create digital business case templates, which can be easily navigated and downloaded as PDFs or emailed directly.
3. *DIY Website*: A free platform for SMEs to create and download customizable websites, enhancing their digital presence without needing web development expertise.
4. *Marketplace/Order Management*: A digital platform to help SMEs manage their orders through seamless tracking and client communication.

   4.1. *Overall Architecture*: The four apps are synchronized and follow a standard procedure. (“The opportunities and challenges of digitalization for SME's”) Users need to sign up with personal, company, and bank details, and agree to the terms and services. They can then sign in using their username (email or ID/passport number) and password.

   4.2. *Current Status*: The research team has developed 4 out of the 10 systems identified, while the remaining systems are in the conceptual phase. The status of these systems and snapshots of the developed systems, which are ready for testing, are provided in the accompanying figures and tables.

   4.3.

Table 3 – System/software development list

system	Concept	Project initiation	Technical architect	Application Development	Completed	Testing
Finance						
Business case systems	✓	✓	✓	✓	✓	
Invoicing and cash flow	✓	✓	✓	✓	✓	
Digital Marketing						
Digital Web, auto create	✓	✓	✓	✓	✓	
Auto Marketing	✓					
Market and technological scanning	✓					
International Marketing	✓					
Custom Relationship Management						
Order management	✓	✓	✓	✓	✓	
Digital Product identification	✓					
Digital Technologies	✓					

Source: Telukdarie A. et al. / Procedia Computer Science 217 (2023) 689–698

1.4 Strategies in DT.

As mentioned earlier, Digital transformation is a complex process involving change: it opens new communication channels with all the company's stakeholders, a new relational approach based on listening, sharing, and continuous engagement with stakeholders.
The change may also allow the reduction of errors, simplification of management, decrease in costs, elimination of redundant activities, in a way to enhance customer experience. At the same time, digitalization enhances customer knowledge, enabling the company to adapt and improve its research and development activities for new products.

To effectively manage these transformations, it is essential to plan an appropriate digital transformation strategy that provides a framework for governing the changes related to integrating digital technologies. Common digital transformation strategies can be summarized into four essential dimensions:

1. *Use of Technologies*: Companies may adopt various strategies, such as using existing standards for business operations or imposing their own technological standards to become market leaders and gain competitive advantages.
2. *Changes in Value Creation*: Adopting new technologies implies an evolution in how companies create value. This may include innovations in the products and services offered, as well as improved ability to meet customer needs.
3. *Structural Changes*: The integration of digital technologies may require significant modifications to the company's organizational structure. This could

involve redefining roles, responsibilities, and internal processes to better align with new technological opportunities.

4. *Financial Aspects*: it is crucial to consider the financial aspects and plan accordingly to support these investments.

These four dimensions provide a framework for balancing the various needs of digital transformation, ensuring that the company can successfully navigate technological changes and maintain long-term competitiveness.

Chapter 1 highlighted the transformative impact of digital technologies and the challenges SMEs may face. It presents a comprehensive review of existing literature and key concepts that inform the research. In Chapter 2, we move from the general understanding of digital transformation introduced in Chapter 1 to a focused exploration of its implications for small and medium-sized enterprises (SMEs), particularly within the context of the 'Made in Italy' sector.

Chapter 2. The case-study.

Digitalization changes the traditional interaction between consumers and businesses (Taiminen and Karjaluoto, 2015), since consumers have now access to a vastity of communication channels with which they can actively connect with firms and other consumers and navigate through an ever-growing number of touchpoints in their customer journey, many digital (Verhoef et al., 2021).

In this thesis, the focus in on SMEs and from now long the *Made in Italy* will be of particular interest for my study, since specific literature on this matter is scarse[10].

The industries characterized by Made in Italy label, possess a bipolar structure due to the coexistence of a few large firms alongside numerous micro, small, and medium-sized enterprises. Specifically, the Italian luxury fashion sector is predominantly driven by SMEs operating within mature markets. Digital technologies empower SMEs to counterbalance their size disadvantage by enabling them to create and share content, engage with consumers, and rapidly establish their brand presence at a lower cost. Historically, luxury fashion firms relied heavily on internal resources focused on tradition, exclusivity, and craftsmanship. Yet, the rise of macro-trends and the digital

[10] According to Forbes, the *Made in Italy,* is believed to be a grant for "fine quality, authenticity and a sense of style internationally praised". The label is characterized by the "3Fs": Fashion, Food and Furniture.

revolution have prompted these brands to reconsider their business process management strategies. In fact, social media platforms, particularly Instagram, Facebook and TikTok, have transformed interaction methods, becoming fundamental tools for communication and value creation, especially with international customers. As a result, luxury fashion companies are increasingly utilizing external resources such as big data, digital technologies, and partnerships with external entities. These platforms not only enhance brand communication and consumer engagement but also facilitate big data analysis for better strategic decisions. For instance, fast fashion brands like Zara and Shein thrive in a digitalized environment that emphasizes speed, affordability, and trend responsiveness, leveraging big data to quickly adapt to consumer preferences. Zara's "*just-in-time*" production model allows it to rapidly design and distribute new styles, while Shein uses data analytics to identify and produce trending items at low costs. On the other side of the coin, traditional luxury brands focus on their history (think about Chanel and the clothes produced during WWII), exclusivity and storytelling, employing digital innovations primarily to enhance customer engagement rather than accelerate production. While digitalization provides fast fashion companies with significant advantages, such as market responsiveness, it also contributes to environmental concerns, as the rapid production and consumption cycles lead to increased waste and resource depletion. This dichotomy highlights the complexities of digital transformation in the fashion industry, where efficiency often comes at a considerable ecological cost[11].

So, the "Made in Italy" represents an approach to fashion that prioritizes quality, craftsmanship, and sustainability, in contrast to fast fashion, which focuses on rapid, low-cost production.

2.1 The fashion industry is a highly strategic value for the whole system.

Confindustria Moda (Italian Federation of Textiles, Fashion, and Accessories) encompasses companies associated with SMI (Sistema Moda Italia), ASSOPELLETTIERI, AIP (Italian Fur Association), ANFAO (National Association of Optical Article Manufacturers), ASSOCALZATURIFICI, FEDERORAFI (National

[11] The fashion industry is often considered one of the most polluting, typically ranking second after the energy sector.

Federation of Goldsmiths, Silversmiths, and Jewelers), and UNIC (Italian Tanneries). Confindustria Moda is the only Italian national association representing the entire production chain of these seven sectors. Over 64,300 companies in these sectors generate a turnover exceeding 108 billion euros and employ around 600,000 workers. These companies represent the excellence of Italian manufacturing and hold leadership positions in international markets, with an export value of 66.6 billion euros in the first ten months of 2022. The Italian manufacturing chain mainly consists of SMEs that, individually, cannot tackle future challenges alone. Acting as a system is essential to seize opportunities and address problems concretely. Therefore, the seven major associations decided to confederate into Confindustria Moda to create this crucial synergy.

At the end of 2022, Confindustria Moda presented a study by Censis, highlighting the highly strategic value of the fashion supply chain for the entire country. Most Italians believe the fashion sector significantly impacts employment, income, quality of life, and sometimes even the livability of specific geographic areas. The study indicates that a 6-billion-euro investment in the sector over the next three years could yield enormous returns: industrial production would grow by over 11 billion euros, and turnover by nearly 20 billion. The Textile, Fashion, and Accessory sector is a strategic asset of Made in Italy, producing not only wealth but also culture and beauty, strengthening the label worldwide. For these reasons, the industry needs to be valued and supported.

Preliminary results for 2022 for the TMA, prepared by Confindustria Moda's Study Center and presented in mid-February, show positive dynamics for the fashion system's turnover. The analysis, based on a sample of companies from the seven associations, indicates a positive trend in 2022 compared to 2021, with a growth of 16.9%, reaching 108.2 billion euros. This data also shows a 10.4% increase compared to the pre-COVID period in 2019, highlighting the importance of Made in Italy fashion in all sectors (clothing, footwear, eyewear, leather goods, fur, tanning, and jewelry).

There’s the need for effective industrial policy for the seven sectors represented by Confindustria Moda that must focus on the Made in Italy product and enterprises, regulatory and fiscal simplification, and streamlined procedures. The priorities for the enhancement and development of Italian manufacturing enterprises are *innovation*, *internationalization*, and *training*. Innovation includes product creativity, investment in digitalization processes to make companies more competitive, and sustainability to future-proof the market. Despite energy and raw material costs, the ability to invest and spend remains crucial. Internationalization is essential to leverage the global demand for

Made in Italy products, while training is necessary to address the expected need for 60,000 to 90,000 new resources in the TMA by 2026. Bridging the gap between job market demand and educational offerings will reduce youth unemployment and provide companies with the talents needed to drive the sector's new phase.

Energy costs are currently a significant barrier to the competitiveness of Italian companies both domestically and internationally. A study by Confindustria revealed that Italy's energy costs have a more substantial impact on production costs compared to France and Germany. Energy costs not only reduce company margins but also complicate price setting and business planning due to their volatility, significantly influencing inflation dynamics.

Innovation in the fashion sector is closely linked to sustainability. Initiatives like Retex. Green promotes the circular economy and sustainable management of textile waste, highlighting the need for a supply chain approach to sustainability. Investing in sustainable practices and technologies is crucial for the sector's future competitiveness and resilience, enabling companies to mitigate the impacts of fluctuating raw material and energy prices. Digital skills are increasingly essential for the fashion sector, particularly for internationalization. Italy lags other European countries in digital skills, necessitating investment in STEM and managerial skills training. This comprehensive training approach will support SMEs in their digital transformation, enhancing their competitiveness and ability to engage with international markets.

2.2 The company

SMEs often do not share detailed strategic and organizational information publicly, therefore, direct engagement is crucial for gaining insights into these profiles. Alongside primary data obtained from interviews, secondary data was also collected from a survey and various sources, including corporate presentations, online resources, and newspapers. Given my origins and deep connection to my homeland, I have chosen to focus on *Gerardo Sacco & C. Srl*[12], as a case-study within the context of Italian SMEs in the luxury fashion sector.

[12] an Italian company renowned for creating and selling high-end jewelry, based in Crotone (Calabria)

The study will focus on the brand diffusion of Gerardo Sacco, founded in 1963 in Crotone, a Calabrian city with deep roots in ancient Magna Grecia, which is reflected in Gerardo Sacco's masterpieces. The brand's designs blend artistry and history, and its significant market presence has been further strengthened through a digitalization process spearheaded by artisan Gerardo and his daughter, Viviana Sacco. Gerardo Sacco is strategically focusing on a broad market by targeting women aged 35 to 45, positioning itself in the luxury jewelry segment. To achieve its ambitious goal of expanding from a national to an international presence, digitalization and digital transformation (DT) are essential. By embracing online platforms and advanced marketing strategies, Gerardo Sacco aims to enhance brand visibility and accessibility, clearly signaling its intent to go global. This commitment to leveraging digital tools not only strengthens its market reach but also aligns with the evolving preferences of modern consumers who seek quality and exclusivity in their jewelry choices.

The revenge of the artist Gerardo Sacco is turned into a company that has nowadays forty employees, produces over 200,000 pieces per year in gold and silver has a turnover of over 7 million euros.

In the early 2000s, when the sons of Gerardo Sacco took over the administration, they have decided to establish a comprehensive distribution network through authorized dealers to expand the brand's reach beyond regional boundaries. Alongside their boutiques in Crotone, Reggio Calabria, and Lamezia Terme, new locations were also launched in Rome, Salerno, and Milan, within the Fashion Quadrilateral. This expansion represents a significant investment for the Calabrian SME, aiming to bolster their presence in the North of Italy, as highlighted by the sole administrator, Viviana Sacco[13].

Currently, only 10% of production is allocated for export, primarily through e-commerce (their official website). Looking ahead to 2024, there are plans to actively explore international markets, even if the firm remains committed to a strategy that avoids overly aggressive commercial tactics. "Our focus remains on the product and its artisanal roots tied to the territory," the sole director has affirmed. "Our storytelling must, therefore, uphold a very high standard."[14]

[13] From an interview with Viviana Sacco

[14] Conference held at Università Mediterranea di Reggio Calabria, 2024

2.2.1 Swot

Table 4 – Swot analysis

Strengths	Weaknesses
• Gerardo Sacco has established a strong brand identity, widely recognized and valued. • The products are known for their authenticity. • High-quality craftsmanship is a hallmark of the products. • The designs are deeply connected with ancient cultural traditions. • The company is a leading producer of jewelry inspired by Magna Græcia in Calabria. • A variety of production lines cater to different market segments. • Internationally, Gerardo Sacco products benefit from the positive reputation of "Made in Italy" as a mark of excellence. • The small size of the company represents a strength from the point of view of flexibility in satisfying customizable demands.	• Limited reach of advertising campaigns, due to lack of skilled employees and budget. • The distribution network does not cover the entire national market. • The website interface is complex and not user-friendly. • Currently, the website is only available in Italian, limiting access to a broader audience. • Limited production capacity.

Opportunities	Threats
• Potential to increase market share nationwide. • Opportunity to expand into international markets. • Potential to enhance the brand's reputation as a symbol of ancient culture. • Possibility of becoming a leading national producer in this specific jewelry segment.	• The strong association with the region could negatively impact the brand if the region's image suffers. • Intense competition from numerous firms and the threat of new entrants. Recently, companies from other sectors have started investing in this market, increasing competition. • An oversupply in the market could lead to decreased demand. • As said earlier the small size of the company may represent a strength but at the same time it is a weakness in terms of lack of economies of scale.

Source: prepared by the candidate using information collected within the company

2.2.2 External analysis: PESTEL[15]

Externally, the operations are held within a complex environment shaped by various political, economic, social, technological, environmental, and legal factors. Politically, the supportive regional governance and European development programs offer potential opportunities for growth[16]. Economically, despite Calabria's low GDP and high poverty levels, local development initiatives provide avenues for external market expansion. Socially, the region's socio-economic challenges and cultural richness influence consumer behavior and workforce dynamics: strong local identity and tradition benefit Gerardo Sacco by aligning with its emphasis on Italian craftsmanship and heritage. Technologically, the DESI 2022 report highlights Italy's ongoing efforts to improve its digital economy and society showing that leveraging advancements in digitalization and e-commerce is crucial for reaching broader markets and improving operational efficiency. Environmentally, adopting sustainable practices aligns with growing eco-conscious consumer preferences and enhances brand reputation. Legally, compliance with Italian and EU regulations, particularly in intellectual property and environmental standards, is essential for protecting the company's unique designs and maintaining its competitive edge. By strategically navigating these factors, Gerardo Sacco can capitalize on its strengths in Italian craftsmanship and heritage to sustain and grow its business.

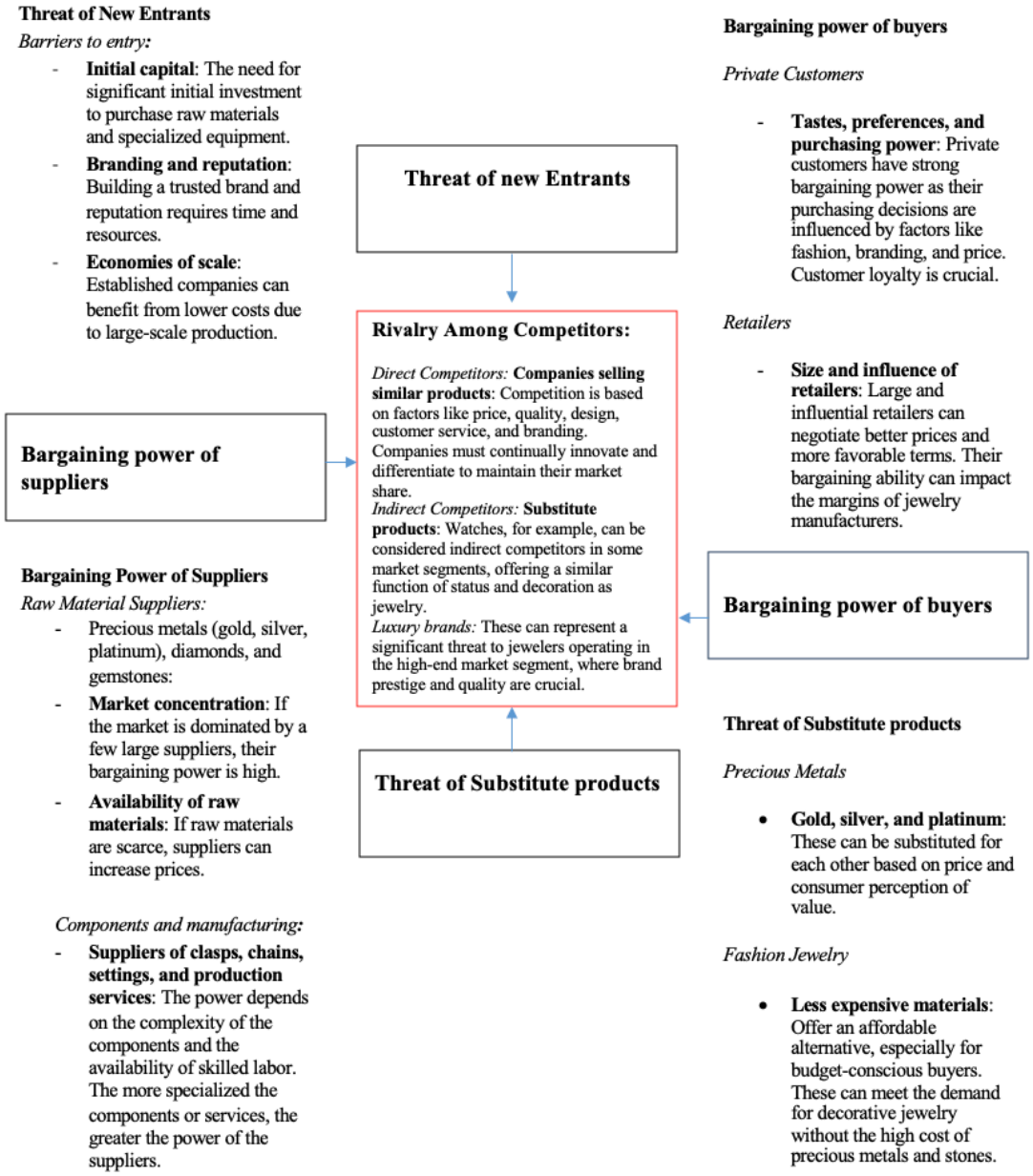
2.2.3 Internal analysis: Porter's 5 forces model

The internal analysis conducted given the information collected within the company is explained through Porter's 5 forces model in Figure 6.

[15] Political, Economic, Social, Technological, Environmental, Legal

[16] Calabria's participation in European programs, such as the Convergence Objective and the European Territorial Cooperation Project, aims to support economic development and job creation in disadvantaged regions

Figure 6 – Porter's 5 forces model



Source: prepared by the candidate.

2.3 Current level of Digitalization in the company

Gerardo Sacco & C. Srl demonstrates a high level of digitalization since the company integrates both advanced technologies and a sophisticated omnichannel strategy. 3D printers are in use not only for rapid prototyping but also for customized production, allowing to reduce development time and costs and offer tailored products. The design software *Rhinoceros* and *ZBrush* are essential for ensuring precision and compliance with industry standards, facilitating collaboration between design and production teams. Big

data analysis plays a crucial role in their strategy, enabling a deep understanding of customer needs, preferences, and behaviors, optimizing operations by identifying inefficiencies, forecasting market trends to develop proactive business strategies, and managing risks more effectively.

The management of their website and e-commerce is entrusted to a dedicated team that handles design, development, and maintenance, ensuring a fast, secure, and SEO-optimized website. The team also focuses on e-commerce marketing through SEM advertising, social media marketing, email marketing, and content marketing. They use an order management system (OMS) to automate the order fulfillment process and provide customer service via phone, email, and live chat. Analytical tools such as Google Analytics, Adobe Analytics, and Crazy Egg are used to monitor traffic, user behavior, and conversions, allowing for continuous improvement of site performance and personalized user experiences.

Their communication and advertising strategy leverages both online and offline platforms. Online, the firm extensively use websites and social media platforms like Facebook, Instagram, LinkedIn, and Twitter, and invest in Google Ads and other SEM platforms. Email marketing, with newsletters and promotions, and content marketing, including blogs, infographics, and videos, are integrated into the strategy. Offline, there is great participation in industry events and fairs, traditional advertising through print, television, and radio, and collaborate with the media to strengthen public relations. They invest significantly in advertising on Google Ads, social media, video, and content marketing, constantly monitoring and optimizing campaigns to maximize return on investment (ROI).

Finally, Gerardo Sacco & C. Srl places great importance on employee training and development, investing in basic computer courses, training on specific software such as Microsoft Office and CRM, cybersecurity, e-commerce, and social media. Promotion of digital leadership is becoming important to guide and inspire teams in an increasingly digital work environment. This continuous training improves the skills and adaptability of the team, enabling them to meet the challenges of a rapidly evolving market. This integrated digital strategy, with digital at the core of business operations, allows Gerardo Sacco & C. Srl to optimize performance, enhance customer experience, and maintain a competitive edge in the market.

2.2.3 4P[17] of Innovation for Gerardo Sacco & C. Srl and IMPULS MODEL

Gerardo Sacco & C. Srl has developed innovative multifunctional jewelry, such as a unique multifunctional ring. This product combines various functionalities into a single piece, adding significant value and differentiation in the market. The development process utilized advanced technologies like Computer-Aided Design (CAD) software to create detailed 3D models and simulations, optimizing the design for precision and customization. Rapid prototyping through 3D printing allowed for cost-effective and efficient testing of various designs and materials, ensuring the final product meets specific customer preferences and market demands.

The company's production processes have been significantly enhanced through the adoption of cutting-edge technologies. The use of 3D printing for rapid prototyping and customized production, alongside CAD software for intricate design tasks, highlights their commitment to innovation. Gerardo Sacco & C. Srl has also implemented Embedded Systems to control and monitor machinery, improving production reliability and efficiency. Cloud computing provides scalable IT infrastructure for data storage and application development.

Despite these advancements, the company's innovation has primarily been closed due to limited resources, relying on internal capabilities and technologies.

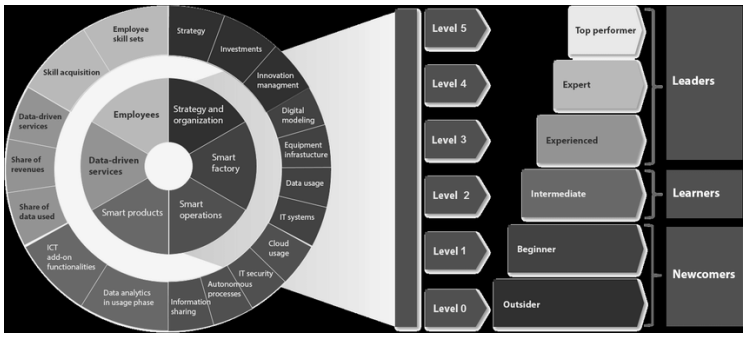
The firm has carved out a distinctive position in the competitive jewelry market by focusing on high-quality, innovative products like multifunctional jewelry. This strategic positioning targets a *niche* segment that values both functionality and aesthetics. The company's branding strategy highlights its dedication to innovation and quality, enhancing its reputation and attracting a loyal customer base. By staying attuned to market trends and customer preferences, Gerardo Sacco & C. Srl maintains a competitive advantage in the luxury jewelry sector.

Open innovation is being embraced by engaging external consultants and experts from other companies, moving beyond their traditional closed innovation approach, even with financial resources representing still a challenge. This new strategy aims to leverage external knowledge and resources to further drive innovation and improve overall performance and customer satisfaction, but the process is costly even for a company that

[17] Product innovation, process innovation, position innovation and paradigm innovation

has taken so many steps forward digital transformation summarized in the positioning of the company in the IMPULS model[18]

Figure 7 – Impuls Model, Industry 4.0 Readiness-Six Dimensions and Firm Readiness Levels in Details,



Source: "Industry 4.0 impact on franchising network governance" – Hüseyin Hayri Nuroğlu

According to the literature – and given the information provided by the company earlier summarized – Gerardo Sacco & C. Srl is positioned at Level 3 (Experienced). The company demonstrates a significant degree of digital maturity with advanced technologies in product and process innovation, a strategic approach towards innovation management, and a strong IT infrastructure. However, there is room for improvement in further integrating data-driven services and expanding the scope of autonomous processes and data analytics in product usage – also think about the possibility of a *Digital Twin* or *Simulator.* Test the jewelry resistance and durability is still a challenge for the company, even though the precious materials used are well-known for their endurance, sometimes complex structures may have issues. Nowadays the prototypes are tested directly by the employees of the company, who wear them for a limited time before the final product is approved and launched. Here, my suggestion would have been the application of a *Digital Twin* – as mentioned earlier – or a *simulator*. These two digital technologies may represent a turning point for the company in terms of innovation. But those the company know about these technologies? Do SMEs like Gerardo Sacco have the resources to implement these strategies even if they know about them? How SMEs can implement new digital strategies will be explained in the next chapter of this thesis, where guidelines and advice will be provided.

[18] The Impuls Model is a framework used to guide and manage digital transformation within a company.

Chapter 3. Research and guidelines for SMEs

This chapter highlights the critical role of digital transformation in fostering ongoing innovation within industries like fashion, offering key guidelines for SMEs to begin their digital journey or to further enhance it. Using *Gerardo Sacco & C. Srl* as a practical case study, it was adopted an experimental approach that reflects on the company's digital projects and incorporates insights from similar businesses in Calabria.

3.1 Conclusions from Case-Study and comparison with competitors

The case study highlighted a dual path for SMEs when approaching innovation: they can either take a leap into the unknown and try their luck, or choose to do nothing, avoiding the risk of expending energy and resources on a project that might prove unprofitable - and nowadays, most of the SMEs choose to nothing.

To support this, several of Gerardo Sacco's main competitors were interviewed, and the data collected revealed a relatively low average level of digitalization among the firms surveyed.

Most companies are still in the early stages of digital adoption, relying primarily on basic tools such as email communication and maintaining an online presence and most of them are uncertain about the advantages of a digital transformation, fearing the risks. This highlights the innovative path Gerardo Sacco has taken by embracing more advanced digital strategies.

Tools like CRM systems, ERP solutions, and data analytics are largely underutilized, and there remains a significant gap in digital skills among employees.

The companies interviewed are *Orafi Perri, Michele Affidato SRL, Vincenzo Linardi Gioielli* and *Orafi Tripodi;* the outcomes have been simplified in Table 5.

Table 5 – Competitor's Digital Analysis

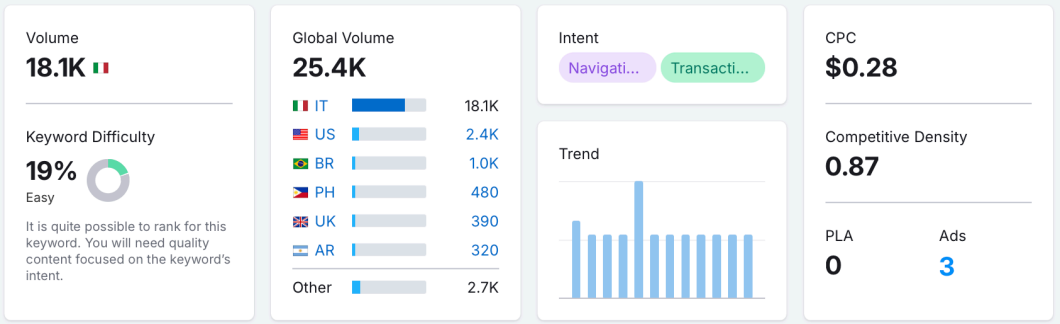
Digital Tool/Aspect	Percentage of SMEs Utilizing	Average Maturity Level
Basic Online Presence (Website)	80%	2/5
E-commerce Platforms	30%	2/5
CRM Systems	15%	1/5
ERP Solutions	10%	1/5
Data Analytics	5%	1/5
Social Media Engagement	70%	3/5
Employee Digital Skills	40%	2/5

Source: prepared by the candidate using information collected through interviews.

The table shows that the company Gerardo Sacco, having undergone a digital transformation process, has reached a higher level of maturity compared to its competitors. Additionally, the financial data[19] indicate that the company's positioning in the Italian market is significantly stronger, demonstrating that the adoption of new technologies has not only improved operational efficiency but also enhanced the brand's competitiveness and presence in the sector.

Of course, financial data may not show alone the level of digitalization, for this reason data from SEO[20] have been also considered. From the comparison between Gerado Sacco and Michele Affidato's companies, Gerardo Sacco has a greater user base:

Figure 8: Keyword researches Gerado Sacco & Co srl

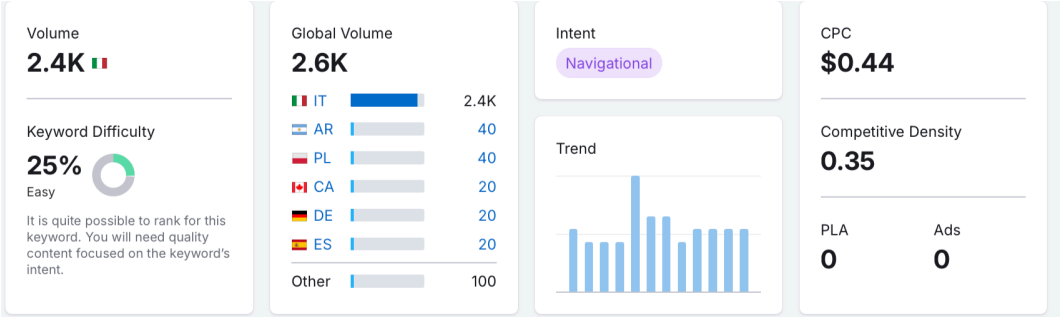


Source: semrush

[19] the annual income of Gerardo Sacco & Co SRL overreaches 7 M and its first competitor *Michele Affidato Orafo srl* reaches 1.3 M on average according to Ufficio Camerale's reports.

[20] Search engine optimization

Figure 9: Keyword researches Michele Affidato Orafo srl



Source: semrush

Strategic digital management of Gerardo Sacco & Co SRL may be the answer to greater production capacities and expansion of the company nationally.

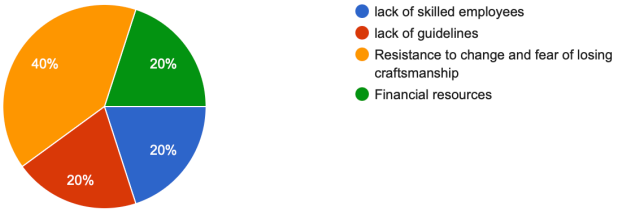
Therefore, what is the reason that the other company has not pursued the same course of action?

3.2 Suggestion: LDT.

In interviews with various companies, several reasons emerged for their reluctance to embrace digitalization, ranging from insufficient information to a lack of skilled employees. However, one reason that particularly stood out to me was the fear among these firms of losing their essence of craftsmanship[21].

To help Italian artisanal fashion brands adapt to technological changes and preserve their traditional craftsmanship, one solution could be to draw inspiration from successful methods used in other countries and industries, such as the Toyota Production System (TPS). This strategy, known as Lean Digital Transformation (LDT), emphasizes efficiency, quality, and sustainability by merging digital tools with artisanal values,

[21] *Figure 12 – summary chart*



Source: prepared by the candidate

allowing these brands to differentiate themselves from fast fashion without losing their heritage.

Taking cues from TPS, which revolutionized manufacturing by focusing on reducing waste and enhancing continuous improvement, LDT encourages Italian fashion brands to adopt a similar mindset tailored to their unique needs. By integrating digital inventory management and just-in-time production—techniques widely used in industries like automotive—brands can optimize production, minimize excess materials, and cut unnecessary costs, creating a more efficient and sustainable process.

Skills' development is also critical, drawing from the education models used in other sectors where technology and traditional skills coexist. Training artisans in digital tools like CAD software and digital marketing platforms ensures they can leverage modern technology to enhance creativity and reach new markets, blending the best of tradition and innovation. Integrating technologies like 3D printing for prototyping and AI-driven trend forecasting—methods borrowed from industries such as tech and design—allows artisans to maintain their craftsmanship while staying relevant and competitive.

LDT also emphasizes the power of storytelling and transparency using digital platforms to highlight the authenticity and history behind their products. Blockchain technology, commonly used in other sectors for supply chain transparency, can provide proof of sustainability and authenticity, appealing to a market increasingly focused on ethical production.

The concept of collaborative ecosystems, widely seen in tech and startup communities, can also be adapted for artisanal brands, creating networks that share digital resources, knowledge, and marketplaces. This collective approach helps small brands overcome the traditional barriers posed by fast fashion and reach broader audiences.

In addition, personalization – a key strategy in industries like automotive and tech – can be harnessed to offer products that set artisanal brands apart from mass production. Digital customization tools allow consumers to co-create designs, ensuring a personal touch that fast fashion cannot replicate also adopting sustainability practices like *digital pattern optimization* and *lifecycle analysis* aligns these brands with the values of *eco-conscious consumers.*

While these suggestions may represent an optimal solution for SMEs, "Made in Italy" brands may hesitate to adopt practices from distant countries. Thus, how can they be

supported in determining the appropriate stage of *Industry*[22] positioning to maximize their returns?

3.3 Guidelines.

In the evolving landscape of digital transformation, especially for small and medium-sized enterprises (SMEs), there is a noticeable lack of comprehensive, universally accepted guidelines to navigate the process effectively.

Without clear direction, these businesses often find it difficult to determine where to start, how to plan, and which steps to prioritize in their digital transformation. To address this gap, practical guidelines are proposed based on the companies and cases discussed earlier. From the previous analysis, fundamental principles can be extracted and presented. These guidelines not only offer a structured approach to digital transformation but also provide SMEs with actionable steps to overcome common obstacles, ensuring a smoother, more effective transformation journey. Through these principles, SMEs can develop a digital roadmap that minimizes risks while maximizing long-term success, making their transformation both strategic and sustainable.

The first mandatory step is to assess digital readiness so evaluating the current digital landscape of the organization, including existing tools, infrastructure, and the digital competencies of employees; in order to understand and identify technological gaps and skill deficits (a complete assessment should span all areas of the business: operations, marketing, sales, and customer service). Companies can conduct a digital maturity assessment using established frameworks like the *Industry 4.0 Maturity Index*, which provides insights into their current capabilities and readiness for transformation.

Once the digital readiness assessment is complete, the next step is to develop a digital strategy that aligns with the organization's broader goals. A well-defined digital strategy serves as a roadmap for the transformation process, ensuring that all initiatives support the company's objectives. To create an effective strategy, identifying key digital initiatives that align with these objectives is crucial; for instance, implementing an e-commerce platform or enhancing social media marketing efforts can be pivotal. A

[22] Industry 2.0, 3.0, 4.0 and ultimately 5.0

detailed program should outline the specific steps, timelines, and resources required to achieve the missions.

At this point, financial resources, technology and infrastructures should be considered. Small and medium-sized enterprises (SMEs) must identify and invest in the right technologies that support their unique business models, but they must reckon with the financial availability. Companies should prioritize investments based on potential impacts on business operations and customer satisfaction. This step is critical: the firm must determine whether the digital innovation project has sufficient value to justify financial investment and proceed to the subsequent guideline. In the case of Gerardo Sacco, for example, the adoption of advanced technologies such as 3D printing, customer relationship management (CRM) systems, and data analytics played a decisive role in enhancing production efficiency and customer engagement, yet such improvements required huge investment. A change of such kind must be welcomed internally that is why enhancing digital skills and cultivating a culture that embraces innovation and change are essential for a successful digital transformation: employees are central to this process. Regular training programs can help improve employees' proficiency with new tools and technologies, ensuring they are equipped to navigate the digital landscape. Companies should promote a culture of continuous learning and innovation, encouraging employees to experiment with new digital solutions and share their ideas. Digital leadership roles can also guide and support the transformation process, providing the company with a supportive environment that embraces change.

Businesses can use key performance indicators (KPIs) to track their progress towards digital transformation goals: data serves as an asset that can drive informed decision-making and optimize business processes. SMEs should invest in data analytics tools that provide insights into customer behavior, market trends, and operational efficiency and can use customer data to personalize marketing efforts enhances engagement, while operational data analysis can help identify inefficiencies and streamline processes.

Now, the problem is how to mitigate the risks associated with digital transformation and for this pilot projects is recommended. SMEs can select specific areas of the business for these pilot projects, allowing them to test new technologies and processes on a limited scale before full implementation. This approach enables organizations to monitor the performance of pilot initiatives, gathering valuable feedback from employees and customers to inform adjustments. Insights gained from these pilot projects can refine the overall strategy and help scale successful initiatives across the business.

Collaboration with external partners can help alleviate concerns surrounding the digital transformation process and expedite its implementation, particularly for SMEs that may lack the internal resources and expertise. Identifying potential partners—such as technology providers, consultants, or other companies—can provide essential support.

Implementing new digital projects effectively is crucial, as illustrated by Gerardo Sacco's experience. The company demonstrated meticulous project planning and execution, starting with the integration of 3D printing technology into its production processes, which allowed for rapid prototyping and customization. The subsequent implementation of CRM and ERP systems further streamlined operations and improved customer relationship management.

Actionable guidelines for successful project implementation include defining the project scope and objectives clearly, ensuring that resources such as budget, technology, and skilled personnel are adequately allocated, and involving key stakeholders from the outset to align the project with business goals. Change management is critical, for instance, Gerardo Sacco successfully managed this transition by prioritizing employee training and fostering a culture of innovation. Effective communication is vital; keeping employees informed about the project's goals, progress, and expected impacts on their roles can help alleviate resistance and promote engagement. Comprehensive training programs ensure that employees feel comfortable using new digital tools and technologies, while establishing support systems, such as help desks or online resources, can assist employees during the transition. Creating feedback loops where employees can provide input and suggestions ensures continuous improvement and adaptation throughout the transformation process.

The guidelines provided for initiating digital transformation serve as basic steps for SMEs. However, the implementation of these guidelines is not a one-size-fits-all process; firms have the flexibility to choose which steps to take based on their specific needs, financial resources, and anticipated returns. Each SME can assess its unique situation and prioritize areas that will yield the greatest impact, allowing them to manage their transformation journey in a way that aligns with their strategic objectives and available budget. By adopting this tailored approach, businesses can effectively navigate their digital transformation while ensuring that each initiative is both practical and aligned with their long-term goals.

Conclusion

The digital transformation of small and medium-sized enterprises (SMEs) is no longer a distant goal but a necessary evolution for survival and growth in the global marketplace. This thesis has sought to explore the critical challenges, strategies, and outcomes of digitalization for such businesses, addressing questions about how digital tools can enhance competitiveness while preserving the essence of traditional craftsmanship. By using the case study of Gerardo Sacco & C. Srl, this research offers insights into how digital transformation can be effectively integrated into the luxury sector, without sacrificing the unique identity of a brand and craftsmanship.

Key research questions revolved around understanding the impact of digitalization on SMEs in the luxury sector: *What role does digital transformation play in strengthening competitive advantage? What practical steps must be taken to implement successful digital strategies? Finally, how can companies like Gerardo Sacco, steeped in tradition, merge digital innovation with their artisanal heritage?* These inquiries guided the structure of the thesis, with each chapter addressing a different facet of the digital transformation journey. In the early chapters, the research examined the Made in Italy sector with a particular focus on luxury fashion and jewelry. These chapters not only introduced theoretical perspectives but also provided practical insights into the challenges and opportunities of digital transformation. First, there was a simple a introduction to the concept of digital transformation, with an emphasis on the disruptive effect digital technologies can have on traditional business models. It highlighted the struggles faced by SMEs, such as limited resources and a lack of digital skills and stressed the need for digital adaptation as a competitive imperative in today's fast-evolving markets.

After that, the research delved deeper into the Italian luxury fashion sector, focusing on the transformative potential of digital tools. It explored how digital strategies such as 3D printing, e-commerce and data analytics can enhance the global reach of brands like Gerardo Sacco. Also detailed SWOT and PESTEL analyses shed light on the internal and external factors influencing the digital transformation journey.

The final chapter was meant to present a comprehensive roadmap for SMEs to embark on digital transformation, proposing actionable steps for other SMEs to follow in their

digital journeys, emphasizing the importance of digital readiness, aligning digital strategies with overall business objectives, and making informed investments in digital technologies.

It is important to note that the company has the flexibility to decide how far to follow the recommended guidelines and whether to begin or not the digital itinerary. However, being aware of these options ensures the company understands potential pathways for innovation and can make informed decisions about if and when to pursue them, even if it chooses not to act immediately.

The case study of Gerardo Sacco & C. Srl demonstrated how an SME in the luxury sector can skillfully manage the challenges of digital transformation when that appears has a leap into the dark. By integrating tools such as Enterprise Resource Planning (ERP) systems and 3D printing, the company was able to innovate in product design and enhance customer interactions. Despite its small size and many financial obstacles, Gerardo Sacco leveraged digital technologies to boost operational efficiency and expand its international footprint, all while maintaining its artisanal craftsmanship.

In sum, this research has shown that digital transformation is now feasible: The case of Gerardo Sacco & C. Srl and the comparison with its main competitors illustrates that digital technologies can enhance both efficiency and competitiveness, provided the transformation is aligned with the company's core values and long-term goals.

This thesis also contributes to the body of knowledge on digital transformation in the Made in Italy sector by providing practical insights for SMEs seeking to embark on this transition. Through a combination of theoretical analysis and case study evidence, it offers a blueprint for other companies aiming to navigate the digital landscape while remaining true to their heritage.

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