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The role of Procurement in business strategy

From Theory to Practice: Understanding Procurement's Strategic Impact

Relatore:

Chiar.mo Prof. Valerio Veglio

Tesi di Laurea

di Tommaso Cascarano

Matr. n.530940

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Introduction

1. Background and relevance of the study

With an interdependent world economy with speeding technology at a pace unprecedented in history, and with a social imperative to maintain elevated expectations, the procurement function has become a key element of corporate strategy.

No longer constrained to a back-office role, where its central focus was on the speed of transactions and cost reduction, procurement now functions as a strategic link between the company and its external world, determining the competitiveness, robustness and innovation potential of firms (Van Weele & van Raaij, 2014; Monczka et al., 2016).

The global crises of the last decade —from the financial collapse to the COVID-19 pandemic, from the war in Ukraine to the ongoing energy transition — have highlighted the vulnerability of extended supply chains and the need for a more strategic, data-driven and sustainability-oriented approach to procurement.

Procurement has evolved: no longer does it limit itself to managing price, but is complexity management, coupling risk governance, digital-enabled solutions and ESG (Environmental, Social, Governance) into business models.

It is this evolution that has created the concept of "Modern Procurement", not merely as an improvement in operations, but as a cross-cutting system connecting business strategy, the supply ecosystem and sustainable performance.

Modern Procurement integrates cost-effectiveness, creativity and risk management into a single managerial rationality, transforming the role of purchasing into a driver of value in the long term.

Procurement maturity is therefore no longer a matter of the ability to secure the lowest prices, but of the ability to coordinate information, technology and relationships on behalf of the strategic aspirations of the enterprise. Firms that possess the capability to build high-end procurement capabilities can predict outside shocks, enhance innovation through suppliers and achieve greater sustainable cost efficiency. Companies that adhere to a purely transactional perspective remain susceptible to volatility, inefficiencies, and competitive advantage loss.

In this broader transformation, indirect purchasing — i.e., the purchase of products and services that are not directly accountable to the final product, such as marketing, IT, building management or human resources — is one area still relatively unmapped in the literature but extremely strategic.

While it accounts for a significant majority of the overall spend of many companies, indirect purchasing is often less transparent than direct procurement. However, it plays a crucial role in supporting business continuity, service quality and stakeholder satisfaction, especially where there are several locations or a global reach.

The food industry itself creates a very interesting context for observing this evolution. It is an industry with intricate supply chains, strict regulatory and sustainability requirements and great consumer sensitivity. All the more so for that, it is an ideal terrain for testing out how companies are able to simultaneously reconcile cost control, innovation and environmental and social concern.

2. Research problem and theoretical gap

Even if the extensive supply chain and procurement management literature is huge, most studies continue to focus on manufacturing production and direct purchasing, neglecting the strategic dimension of indirect procurement.

Few contributions systematically analyze how the latter can support corporate competitiveness through digitalization, risk management and the integration of ESG principles.

Several authors (Hong & Kwon, 2019; Luzzini et al., 2015; Handfield et al., 2020) underline the need to develop integrated theoretical frameworks, capable of grasping the multiple levers that today define the maturity of procurement functions. However, an organic synthesis that connects the technological, organizational and environmental dimensions of purchasing performance is still missing.

This work aims to fill that hole, proposing an analytical model that interprets procurement as a multidimensional strategic capability and verifying its empirical validity through the internship experience analysis based on secondary data.

The objective is therefore to build a bridge between the evolution of managerial practice and the academic debate, offering an updated vision consistent with the current challenges of sustainability and digital transformation.

3. Research questions and objectives

The research question guiding this thesis is as follows:

How can procurement — and particularly indirect procurement — create strategic value in modern organizations through digitalization, risk management, sustainability and cross-functional alignment?

Four specific objectives follow from this question:

1. Review and synthesize the main theoretical contributions on modern and strategic procurement, identifying their dimensions and key factors.
2. Analyze how these dimensions manifest themselves in practice, with particular attention to the food sector, using publicly available cases and evidence.
3. Compare theoretical models with observed business practices, identifying alignment points, divergences and implications.
4. Elaborate managerial recommendations to strengthen the strategic role of procurement in both TNCs and SMEs.

In doing so, the thesis intends to combine theoretical rigor and managerial relevance, showing how the purchasing function can evolve into a real strategic hub capable of connecting digital tools, risk management and sustainability objectives within a coherent governance framework.

4. Methodological approach

Given the impossibility of accessing confidential company data or conducting direct interviews, the study adopts a qualitative and comparative methodology based on document analysis (desk-based analysis).

The survey is based on a systematic collection of secondary sources, including:

- Academic articles and reviews published in scientific journals such as Journal of Purchasing and Supply Management and Supply Chain Management: An International Journal;
- Sustainability reports and corporate balance sheets of large companies in the food sector (e.g. Barilla, Nestle, Unilever, Danone, Ferrero);
- Consulting firm studies and surveys (Deloitte CPO Survey, McKinsey Procurement Insights, PwC Procurement 4.0 Reports);
- International standards and guidelines (ISO 20400, ISO 31000, European Directive 2024/1760 on sustainability due diligence).

The methodology adopted is interpretative and comparative: instead of relying on proprietary data, it triangulates theoretical models, public information and professional sources to identify recurring patterns and good practices.

This approach allows you to compare multiple companies operating in similar market conditions, offering a useful empirical basis for evaluating how the strategic dimensions identified in literature find concrete application.

The analysis will therefore be descriptive and critical: descriptive, because it will map the structures and characteristics of procurement systems in the main food companies; critical, because it will evaluate their degree of alignment with respect to theoretical maturity models and best international practices.

5. Structure of the thesis

The work is divided into six main chapters, which follow a logical path of in-depth analysis from the theoretical framework to managerial practice:

- **Chapter 1 – Procurement: theory and management models**

  It introduces the foundations of the procurement function, distinguishing between direct and indirect procurement, and addresses the evolution towards digital and sustainable paradigms.

  Chapter 2 – The strategic dimensions of Modern Procurement

  It develops the central theoretical framework of the thesis, identifying seven interconnected dimensions: risk management, innovation, digitalisation, sustainability, strategic alignment, agility and performance measurement.

- **Chapter 3 – Methodology**

  It describes the qualitative and comparative research design, the sources used and the analytical procedures adopted.

- **Chapter 4 – Comparative case: the transformation of procurement in the food sector**

  It presents a comparative analysis of large multinationals (Barilla, Nestle, Unilever), illustrating how the theoretical dimensions of Modern Procurement manifest themselves in real contexts.

- **Chapter 5 – Critical analysis: theory vs practice**

  It addresses the convergences and the divergences between theoretical models and empirical evidence, identifying gaps, underlying causes and strategic implications.

- **Chapter 6 – Managerial implications and future prospects**

  It wraps up the applied contribution of the study, proposing operational recommendations to managers and encountering the future evolution of procurement in the age of AI and sustainability**.**

- **Conclusion:**

  It concludes theoretical and applied contribution, research limitations and possible lines of future development.

6. Expected contributions

The thesis aims to offer both an academic and managerial contribution.

On a theoretical level, it proposes an integrated model capable of representing the multidimensional nature of modern procurement, overcoming the traditional vision based exclusively on cost reduction and embracing new perspectives linked to innovation, sustainability and digital intelligence.

On a managerial level, it provides practical guidance on how the purchasing function can strengthen organizational resilience, ensure ESG compliance and generate cross-functional value.

In particular, the research intends to broaden the understanding of indirect procurement as a strategic domain, showing how apparently "supportive" spending categories — such as marketing, general services or HR — can become laboratories of innovation and cross-cutting collaboration.

Focusing on the food sector, characterized by global chains, high regulatory pressure and sustainability challenges, the work provides a concrete and transferable example of how procurement can evolve from a reactive function to a proactive engine of corporate strategy.

Ultimately, the research points out that the true value of modern procurement lies not in what the company buys, but in how it connects strategy, data and objectives across the entire value chain.

1. Procurement: Theoretical Framework and Management Models.

1.1 Definition of procurement: direct vs indirect

Procurement is the set of activities through which an organization obtains what it needs to function: goods, services, supplies. Over time, what was once considered simple operational support, linked to orders and invoices, has taken on a much more important role. Today, in an increasingly unstable and competitive market environment, procurement is seen as a strategic lever capable of having a real impact on the company's competitiveness, its costs, its ability to innovate and even its environmental and social impact.

A useful distinction to understand the logic of procurement is that between direct purchases and indirect purchases. Although both are fundamental, they have different characteristics and require specific management approaches.

Direct purchases cover everything that goes directly into the production process and the finished product. If we think, for example, of a food company, ingredients such as flour, oil or packaging fall into this category. These materials are essential for production and sales, which is why they must be available at the right time, in adequate quantities and with high quality standards. Direct purchases are usually managed centrally and planned, with suppliers selected according to strict criteria. Relationships are often long term and built on trust, not least because a problem in this part of the supply chain can stop production and cause immediate losses function: goods, services, supplies. Over time, what was once considered simple operational support, linked to orders and invoices, has taken on a much more important role. Today, in an increasingly unstable and competitive market environment, procurement is seen as a strategic lever capable of having a real impact on the

company’s competitiveness, its costs, its ability to innovate and even its environmental and social impact.

The situation is different for indirect purchases, which include all those goods and services that are not part of the final product but allow the company to function every day. Consider cleaning services, consultancy, software, advertising campaigns, training courses or event expenses. Unlike direct purchases, indirect purchases involve many business functions (human resources, IT, marketing...) and are often managed in a more fragmented manner. This may lead to some dispersion of expenditure, less control and difficulty in monitoring quality or negotiating advantageous conditions with suppliers.

It is worth giving a concrete example. Imagine a company that produces packaged snacks. When you buy seed oil or packaging film, you are making a direct purchase. These materials will be processed and end up on supermarket shelves. If, on the other hand, the same company contacts an agency for an advertising campaign or concludes a contract for the sanitization of the warehouses, it is making an indirect purchase. Both are important: the former affects the product, the latter ensure that everything else can work.

This distinction is not only theoretical: it has practical consequences on how categories are managed, suppliers selected and processes organized. Direct purchasing requires attention to technical quality, continuity and collaboration throughout the supply chain. Indirect purchases, on the other hand, require greater attention to cost containment, efficiency of internal processes and the ability to standardize what often arises as a "local" requirement. Knowing how to distinguish between direct and indirect is crucial for building a coherent purchasing strategy. It is not just about buying "good", but buying intelligently, taking into account the differences between categories, company structure and strategic objectives. This is also why many companies are equipping themselves with digital tools to increase visibility

on spending, optimize flows and improve dialogue with suppliers. In this perspective, procurement becomes not only a service function, but a real partner for business decisions.

In current research literature, both the direct and indirect sourcing disparity has also become strategically significant. Direct sourcing, impacting the physical good, is generally related to supply chain integration and production efficiency, while indirect sourcing, due to its cross-functional nature, is a field of organizational innovation and digitalization (Van Weele, 2018; Bals et al., 2019). In large organizations, the ability to properly manage indirect categories has become a procurement maturity benchmark, especially because such categories are typically decentralized stakeholders and approval hierarchies are complex. Indirect sourcing should therefore be considered as strategic space where cost reduction, service quality and sustainability converge.

In summary, both direct and indirect purchases have a decisive role for the operation of the company. Understanding their differences, and managing them in a targeted way, is one of the key elements to evolving procurement from an operational function to a strategic leverage.

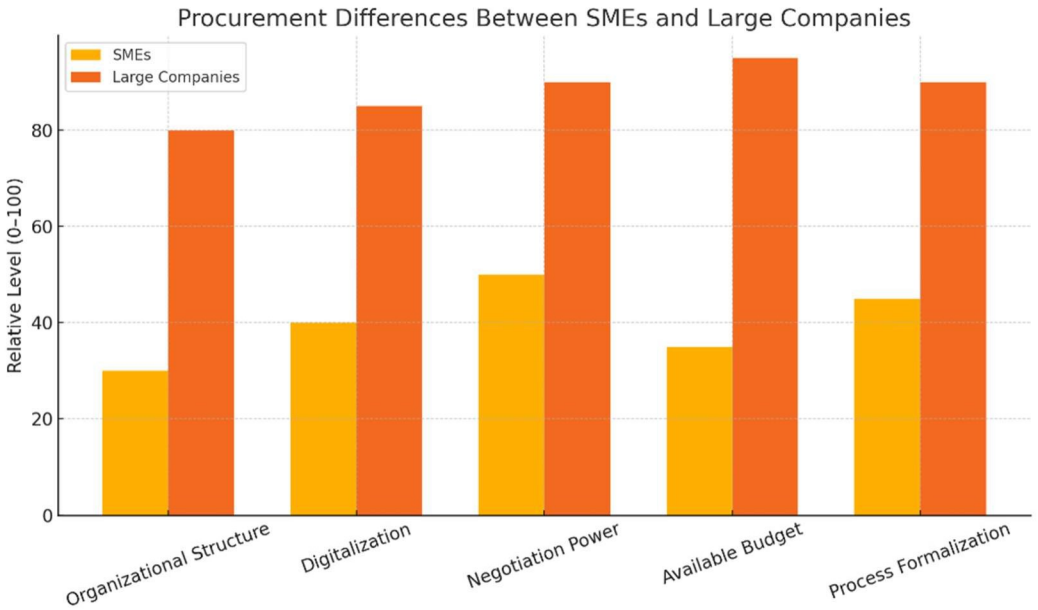
1.2 **Procurement in SMEs vs large companies: a comparative analysis**

The way in which a company manages the purchasing function changes considerably depending on its size. Small and medium-sized enterprises (SMEs) and large companies follow different logics, influenced by factors such as the resources available, the degree of digitalization, the internal structure and the bargaining power that they are able to exercise vis-à-vis suppliers.

Big companies, with superior resource access, are able to use superiorly structured organizations and expert purchasing employees. They tend to use advanced computer

systems - such as ERP or SRM solutions - that provide exact process control and systematic treatment of product lines. They are also able to invest in employee training, seeking out innovative solutions and building long-term relationships with foreign suppliers. Consequently, they can secure improved terms and have an impact on market decisions.

The SMEs, on the other hand, operate in a leaner and less formalized environment. In the majority of reality, the purchasing manager is involved in other corporate tasks as well, and the use of advanced digital tools is not as common yet. Spending management is therefore usually more reactive than planned. But this is not to say that SMEs are less effective: they tend to compensate with flexibility, fast decision-making and immediate contact with suppliers. But their bargaining power is weaker and the potential for long-term strategies might be weaker. These differences are reflected in several aspects, as illustrated in the following graph.



As can be seen, large enterprises tend to score significantly higher across all dimensions. They excel in the digitalization and formalization of processes, where they often adopt integrated platforms that automate tasks and ensure greater control. Also, in terms of trading capacity, large companies have an advantage related to purchasing volumes and reputation on the market, which allows them to obtain more favorable conditions.

SMEs, on the other hand, have a more **fragmented approach**: their organizational structure is often less formalized, their budgets are limited and digitalization is slower, although some firms are increasingly investing in agile and scalable solutions. An interesting fact concerns the involvement of stakeholders, which is more widespread in SMEs, where the lack of specialized functions leads to greater cross-sectional participation in decision making processes. Although SMEs are more agile and adaptable, they face structural limitations that reduce the effectiveness of procurement as a strategic lever.

The latest findings affirm that company size significantly influences procurement maturity but also indicate that technological innovation can make things level. Shared services centers and digital platforms allow SMEs to tap into resources previously a monopoly of large companies, making process standardization easy, supplier benchmarking accessible, and cost transparency achievable (Deloitte, 2023). Shared data infrastructure and digital ecosystems have also been reducing the small-to-large firm gap by providing digital solutions to such firms. All these developments suggest the small-to-large firm gap still exists but is narrowing as a result of digital ecosystems and shared data infrastructure.

Another relevant difference that is applicable is strategic procurement positioning. Procurement within large corporations is typically embedded within corporate strategy

and sustainability programs, while it is maintained more operationally at SMEs. However, SMEs can take advantage of being able to experiment with new technologies (like AI-powered spend analysis or e-sourcing platforms) more rapidly than within large organizations. Therefore, the challenge for SMEs is to translate flexibility into focused strategic capacities, while for large companies the challenge is to maintain agility and responsiveness despite size.

1.3 Modern approaches: sustainable procurement and digital transformation

In recent years, the way procurement is understood has changed profoundly. From a purely operational function, linked to the more practical aspects of purchasing, it has evolved into a real strategic engine for companies. Concrete challenges have pushed in this direction: the need to work in a more sustainable way, to deal with increasingly complex markets and to adopt digital tools capable of improving efficiency and visibility.

In this scenario, sustainability has become the heart of evolution, while digital technologies are the key tools to make it concrete and measurable.

Sustainable procurement involves considering the environmental, social and ethical impact of purchasing choices. It's no longer just about getting the best price, but choosing suppliers that guarantee transparency, respect for human rights, reduced environmental impact and alignment with company values.

At an operational level, this translates into the inclusion of ESG criteria in calls for tenders, in the request for certifications (such as ISO 14001 or SA8000), in the use of

ethical rating platforms such as EcoVadis and in developing long-term relationships based on trust and shared responsibility.

A concrete example is the case of Barilla, which through the "Good for You, Good for the Planet" program has redefined its procurement policies, promoting traceability of raw materials and environmental criteria in agricultural chains. Barilla has adopted a code of ethics for suppliers, integrated digital tools to monitor their performance and actively involved partners in the definition of sustainable standards.

In all this, digitalization is not a technical detail but a fundamental ally. Without integrated systems, data analysis, process automation and collaborative tools, many of the sustainability or efficiency goals would remain on paper. Digital technologies help not only to speed up and simplify everyday work, but also to make better decisions based on data rather than impressions. ERP, SRM platforms, e-procurement tools and increasingly artificial intelligence solutions are changing the face of modern procurement, making it more agile, aware and aligned with strategic business goals.

It is no coincidence that the most advanced companies are trying to integrate in a synergistic way sustainability and digital tools. On the one hand, having a clear view of your environmental and social objectives helps you to choose what to buy and from whom; on the other hand, technology provides the tools to do so with method, precision and transparency. A well-structured procurement today can no longer do without these two pillars, because it is precisely in their balance that the company’s ability to remain competitive and responsible in the long term is at stake.

Recent studies describe this coming together as the foundation of "Procurement 4.0," a model that combines digitalization and sustainability within a holistic strategic concept (Corboș et al., 2023; PwC, 2024). Under Procurement 4.0, digital technologies such as

artificial intelligence, blockchain, and data analytics enable predictive risk management, real-time monitoring of supplier performance, and real-time ESG monitoring. As such, procurement becomes a "control tower" for strategic decision-making. Also, sustainable procurement has evolved into a more proactive, value-creating activity from a former compliance activity, supporting corporate reputation and access to capital through improved ESG ratings.

Moreover, modern procurement blinds economic effectiveness, technological advancement, and social responsibility. Procurement is a constantly evolving discipline where data, sustainability, and collaboration are the new competitive advantages.

2.Strategic dimensions of modern procurement

Procurement, as a technical and administrative function, is now considered a fundamental lever for the competitiveness of companies. In a context where companies must face global markets, complex regulations, health crises and environmental pressures, procurement becomes one of the first strategic lines to generate efficiency, resilience and innovation. A useful way to understand the evolution of the value created by procurement is to observe its six main strategic dimensions, represented in the following chart:

1

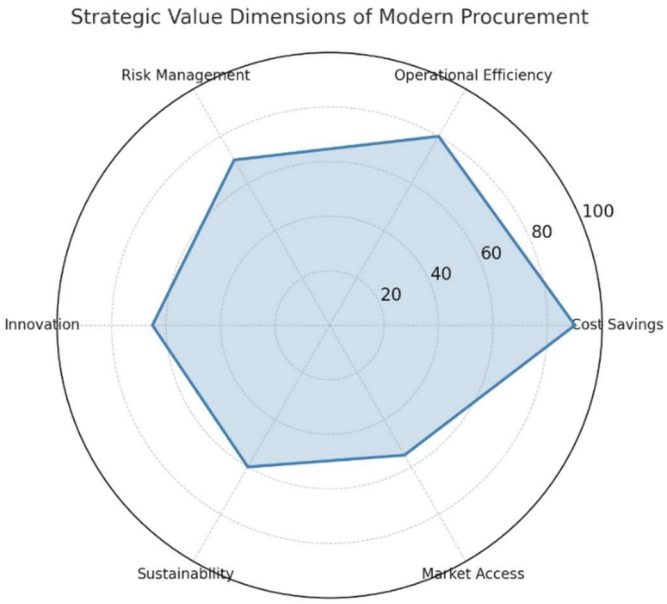


Figure 2 - The strategic dimensions of value in procurement (based on McKinsey, Deloitte, Van Weele)

Cost savings remain a priority: through negotiation strategies, supplier consolidation and total cost of ownership (TCO) analysis, procurement contributes directly to profitability.

[1] Elaboration based on data and insights from McKinsey & Company (2023), Deloitte (2023), Van Weele (2018), and Paulraj et al. (2006). The chart summarizes six key strategic dimensions through which procurement contributes to organizational value, as identified in academic literature and executive surveys.

For example, Unilever achieved significant savings by reorganizing the supply chain and digitizing the sourcing process, reducing average bidding times by 30% (Deloitte, 2023)

But value goes far beyond the logic of price. A well-organized procurement also improves operational efficiency, streamlining internal flows, reducing errors and downtime thanks to automation and digital integration (e.g. SAP, Coupa). The adoption of P2P platforms in companies such as IKEA has allowed a drastic reduction in uncontrolled spending, increasing traceability and compliance with global policies.

Another strategic aspect concerns risk management. In a world subject to geopolitical, pandemic and climate shocks, having a diverse and well-monitored supplier network is vital. Apple, for example, has expanded its Asian suppliers to avoid critical dependencies from a single country, also investing in predictive tools to anticipate stock ruptures or political instability.

Procurement is also an essential lever for innovation. Companies that involve suppliers early in product development (early supplier involvement) obtain more sustainable, technologically advanced and scalable solutions. This is the case for BASF, which has launched collaborative platforms with bio-based packaging suppliers to achieve plastic reduction targets. These partnerships, developed through a strategic procurement framework, generate shared value and competitive advantage.

Sustainability has also become an integral part of the procurement strategy. It is not just about compliance, but real competitive positioning. Barilla, for example, has defined specific environmental and social KPIs for agricultural suppliers, integrating digital monitoring tools to verify compliance with standards on emissions, traceability and working conditions. This approach has strengthened the brand's reputation and improved the overall quality of the supply chain.

Finally, procurement can support access to new markets: by selecting reliable local suppliers, knowledgeable of the regulatory and cultural environment, the company can expand with less risk. In this sense, procurement is not only reactive, but proactive in building international competitive advantage.

In listed companies, the procurement function assumes an even more visible and strategic role. It is not only a tool to optimize the supply chain, but a lever to create tangible value in the eyes of investors. In these contexts, the alignment between procurement and business objectives must be consistent with the narrative that the company proposes to the market. For example, many companies listed in the main indices (FTSE MIB, DAX, CAC 40) integrate procurement-related KPIs into their integrated financial statements or ESG reports. Adoption of sustainable purchasing policies, proactive management of supply risk or collaboration with innovative suppliers are all elements that positively impact the assessment by financial analysts.

An emblematic case is that of Nestlé, a Swiss multinational listed in Zurich, which has included responsible sourcing targets in its three-year strategic plan. The results obtained in terms of reduction of emissions in the supply chain, transparency in relations with suppliers and traceability of raw materials have had a positive impact not only on the company's reputation but also on the confidence of institutional investors oriented towards ESG criteria.

In summary, in listed companies, procurement is not only a technical function but a strategic component of the company's value proposition and compliance with public commitments made to the market.

One of the main challenges facing the procurement function today is to reconcile two apparently conflicting objectives: reducing costs and promoting innovation. Both are

crucial for the competitiveness of the company, but require deeply different decision-making logic, timing and supplier relationships. The real strategic value of procurement lies in the ability to effectively balance these two dimensions, integrating them into the overall vision of the organization.

Traditionally, procurement has been measured by its ability to generate savings. This approach has been implemented through strategies such as price negotiation, supplier consolidation, material standardization, procurement delocalization and the adoption of Total Cost of Ownership (TCO) as an evaluation criterion. In many sectors, especially those with highly competitive pressure such as the GDO or the food processing industry, cost control remains essential. An emblematic example is that of Walmart, the American retail giant, which has built its global leadership precisely on the extreme efficiency of the supply chain and on the ability to obtain highly competitive purchasing conditions thanks to economies of scale, Integrated logistics systems and a very strong contractual leverage.

However, pursuing only the logic of the lowest price can be short-sighted. Aggressive cost-oriented strategies risk compromising quality, flexibility and above all the ability to innovate of suppliers, establishing relationships that are not collaborative and unstable in the long term

In recent years, there has been an increasing awareness that procurement can also contribute to the generation of innovation. In a rapidly changing economic environment, companies need to be able to introduce new products, processes and business models quickly. Suppliers often are a privileged source of knowledge, technical expertise and innovative solutions, especially in technology-intensive or regulatory sectors. Involving suppliers early in the development of a new product not only reduces time-to-market but

also leads to more effective and sustainable solutions. Procter & Gamble, for example, has introduced the "Connect + Develop" platform to facilitate structured collaboration with suppliers and external partners in the innovation process, generating thousands of patents and accelerating the entry of new products into the market.

Similarly, in the automotive sector, companies such as BMW or Toyota adopt "supplier integration" models where key suppliers participate directly in cross-functional co-design teams, contributing technological solutions that meet performance requirements, sustainability and the circular economy.

2.1 From Operational to Strategic Procurement: A Theoretical Overview

The modern academic literature conceptualizes procurement as a multidimensional strategic capability (Hong & Kwon, 2019; Bals et al., 2019). Procurement switch from operational to strategic and is it described through “maturity models” that evaluate organizational progress along several dimensions: cost efficiency, supplier collaboration, innovation, sustainability, risk management, and digital integration.

Recent McKinsey studies show that, mature procurement organizations demonstrate three main characteristics:

- Cross-functional alignment – procurement is a strategic partner to finance, R&D, and sustainability functions.
- Data-driven decision-making – forecasting, risk analysis, and supplier performance management are driven by digital tools and analytics.

- Value creation mindset – the emphasis shifts away from cost avoidance to value creation in the long term through innovation and resilience.

This theoretical framework allows us to understand that modern procurement is not a fixed entity but an evolving capability system that adapts to every technological, economic, and environmental factor. The rest of this chapter covers the basic dimensions that guide this evolution.

2.2 Strategic Risk Management in Procurement

In an increasingly unstable global context, risk management in the supply chain has become a strategic priority for businesses in every sector. The COVID-19 pandemic, the semiconductor crisis, the blockade of the Suez Canal and, more recently, the war in Ukraine have demonstrated how vulnerable supply chains are to sudden exogenous shocks. In this scenario, procurement takes on a central role, not only in responding to crises, but above all in anticipating, mapping and mitigating risks with a proactive approach.

Traditionally, risk has been treated as a reactive issue: companies acted only after there was a disturbance. Today, however, procurement must begin to feel and respond in advance to potentially emerging weaknesses before they occur (Handfield et al., 2020). This is the result of structural shifts in value chains globally and higher interdependence of suppliers. The Covid-19 pandemic opened the eyes of how the then-maximizing efficiency just-in-time logic can be used to maximize fragility as well. Incidents like the Suez Canal shutdown or the Ukraine war have demonstrated that companies with concentrated supply hubs or restricted visibility between tiers are exceptionally susceptible to raw material, logistics, and energy supply disruptions (PwC, 2024).

Contemporary procurement thus works under a double mandate: efficiency and continuity. This dualism reflects what Teece (2007) would define as "dynamic capabilities" organizational ability for sensing threats, opportunities, and re-designing resources. Defined in terms of procurement, these capabilities translate to three inter-connected competences: the competence for sensing early warning signals of market disruptions, for using quick correction tools such as activating alternative sources or contract modification, and for re-designing supply networks to prevent future exposures. This approach transforms risk management from a static, compliance-based rationale to a dynamic, learning-based one, making procurement a proactive center of risk intelligence for the entire organization.

Procurement risks are classified into five generic categories, often interconnected and interrelated: operational, financial, geopolitical, environmental, and reputational. The first ones are related to delays, failure of quality, or IT failure; financial risks are inflation, currency risk, and supplier insolvency; geopolitical risks are caused by wars, sanctions, and regulatory instability; environmental risks are caused by droughts, floods, or lack of resources; reputational risks are caused by unethical conduct, human rights violations, or ESG non-compliance. These types overlap, creating compound consequences—e.g., a geopolitical conflict can trigger financial volatility and shortage of supply, while an ESG infraction by the vendor can rapidly develop into reputation and financial crisis. Due to this, risk management needs to be multi-layered and integrated with finance, law, and sustainability functions.

Some researchers emphasize the use of combining quantitative and qualitative approaches in mapping procurement risk (Aloini et al., 2022; Luzzini et al., 2015). Among the most widely used are the Probability–Impact Matrix, which classifies risks as

to how likely and how serious they are; Kraljic Matrix, adapted to gauge supplier criticality not only by spend and supply risk but also exposure to sustainability; and supplier risk scoring models developed from machine learning algorithms analyzing financials, geopolitical indexes, and climate indexes. At the same time, the concept of the "Procurement Control Tower" (Deloitte, 2023) has emerged as an advanced digital solution integrating SRM, CLM, and ERP systems to monitor disruptions in real-time throughout tiers of suppliers. The software allows procurement managers to view interdependencies, determine highest-priority mitigation actions, and initiate contingency plans in real-time, shifting from reactive monitoring to predictive mitigation.

Purchasing risk management does not rely on a single tool but on a collection of complementary practices. Most relevant are supplier diversification and dual sourcing to prevent overdependence on one supplier or locale; long-term cooperative agreements fostering transparency and joint crisis planning; flexible contract terms—such as force majeure, volume flexibility, and price-indexation mechanisms—that safeguard both parties; and local sourcing or nearshoring programs to reduce geopolitical and logistic exposure, particularly in the post-pandemic era. Increasingly, organizations also integrate ESG due diligence to prevent compliance and reputational risk in supplier vetting. Empirical studies confirm that companies with diversified and digitally monitored supply bases recovered from pandemic-induced disruptions 30–40% faster than those without such systems (McKinsey, 2023). Such facts substantiate the thesis that resilience and profitability are not mutually exclusive but complementary outcomes of strategic procurement.

The food sector is positioned as one of the most risk-exposed industries for risk management, as it is subject to agricultural inputs, climatic conditions, and complex

global value chains (FAO, 2024). The recurring droughts in Southern Europe, for example, created price volatility for key raw materials such as wheat and olive oil, thereby pushing companies to adjust sourcing portfolios and review supplier partnerships. Barilla's "Sustainable Agriculture Protocols" set a best-practice example: through multi-year contracts with farmers and digital monitoring systems, the company minimizes both operational and climatic risk while increasing traceability. Similarly, Nestlé employs climate-risk dashboards using satellite imaging to predict the impact of weather anomalies on coffee and cocoa harvests. These practices demonstrate the potential of procurement to act as an interface between risk governance and sustainability, creating two-way resilience along the supply chain. The growing emphasis on Scope 3 emissions within the EU Green Deal also highlights the precedence of procurement in carbon risk management, as companies are compelled to screen the decarbonization potential of suppliers as part of overall risk evaluation.

More recent procurement is thus evolving from a compliance regime to one of strategic resilience engineering. No longer is the objective merely to fulfill regulatory requirements but to design adaptive systems that will be able to absorb shock and quickly reorganize (Ivanov & Dolgui, 2020). All these developments concern three principal transformations: from linear to networked monitoring, from static supplier lists to dynamic ecosystems mapping; from manual to predictive analytics, employing AI-based forecasting systems to capture weak signals before a crisis; and from transactional partnering to ecosystem resilience, engaging suppliers within information-sharing and joint contingency planning-based risk-sharing frameworks.

Lastly, strategic risk management aims to instill resilience as competency. Organizations that have incorporated predictive analytics, digital transparency, and ESG-based

governance in procurement systems are better equipped to manage uncertainty and to make volatility an opportunity source. Through data, technology, and sustainability integration, procurement makes risk a leveraged component of value creation.

Figure 2.2 – Strategic Risk Management in Procurement

2.3 Innovation and Supplier Collaboration

Innovation is one of the most powerful procurement strategy levers today. In a competitive marketplace with rapid technological advancement and shortening product life cycles, procurement is as much about managing costs as it is about enabling innovation across the entire value chain (Luzzini et al., 2015). Companies have come to understand that not only

are their suppliers' sources of material and services, but they also represent future collaborators for the joint co-creation of new goods, materials, and green processes.

The Supplier-Enabled Innovation (SEI) phenomenon has therefore become an integral part of strategic procurement for this purpose. SEI is how the company systematically integrates the supplier into its innovation strategy as an external node to its R&D system (Johnsen, 2020). The approach transcends the traditional buyer–supplier relationship asymmetry: suppliers are no longer simple executants of specifications but co-contributing partners in process and technological development. Empirical studies confirm that organizations which can leverage the innovation of suppliers can enhance time-to-market, cost reduction, and differentiation (Monczka et al., 2016).

One of the best tools to accomplish this is Early Supplier Involvement (ESI). By engaging suppliers in the initial design and development phases of new products, firms can leverage their specialized knowledge, identify technical constraints ahead of time, and avoid re-engineering costs. Studies have established that early integration of suppliers in the design phase can reduce development time by as much as 25% as well as manufacturing costs by as much as 15% (Luzzini et al., 2015). For example, in the automobile sector, Toyota and BMW employed "co-design clusters," cross-functional groups of internal engineers and key suppliers working together from the earliest concept stages. This collaborative model accelerates technological transfer and creates shared intellectual property.

In the packaged goods industry, Procter & Gamble's "Connect + Develop" program is a quintessential instance of supplier-enabled innovation. Using an open innovation platform, P&G has jointly developed over 2,000 products with external partners, from package manufacturers to digital agencies and research organizations. This type of collaboration have allowed the company to maintain constant streams of innovation while avoiding internal

R&D expenditures. Similarly, Unilever's "Partner to Win" initiative builds long-term relationships with suppliers committed to co-creating sustainability and product effectiveness solutions. These examples illustrate that the procurement function, when properly positioned, becomes a bridging mechanism between outside creativity and inside strategic aspiration.

Growing complexity in supply ecosystems has also led to the evolution of innovation governance models in procurement. Companies are more standardizing partnership deals with suppliers in the form of co-development agreements, mutual performance indicators, and reward systems. These deals are meant to safeguard intellectual property, risk sharing, and allocation of fair value. For instance, BASF has created "Innovation Contracts" that identify roles, obligations, and terms of confidentiality in partnership projects with suppliers. This governance strategy encourages higher transparency and deeper bilateral trust, which are essential for extended collaboration.

At the same time the creation of "innovation ecosystems" is important in situations where procurement is used as a catalyst that blinds suppliers, start-ups, research centers, and universities. The more open and inclusive approach allows companies to accelerate the diffusion of emerging technologies and diversify their sources of innovation. With Chesbrough's (2003) open innovation concept, firms that extend their R&D frontiers outward are likely to develop breakthrough innovations as they can draw on the diversity and speed of external knowledge flows. Procurement therefore has a critical role to play in the orchestration of such networks so that collaborative innovation delivers strategic intents and compliance needs.

Very useful is the creation of “innovation ecosystems,” where procurement acts as a facilitator between suppliers, start-ups, research centers, and universities. This broader and

more open approach allows companies to accelerate the diffusion of new technologies and diversify their innovation sources. According to Chesbrough's (2003) open innovation paradigm, firms that extend their R&D boundaries externally are more likely to develop breakthrough solutions, because they benefit from the diversity and speed of external knowledge flows. Procurement therefore plays a central role in orchestrating these networks, ensuring that collaborative innovation aligns with strategic objectives and compliance standards.

At the same time, supplier cooperation has to harmonize openness and control. From a managerial perspective, trust and openness are the dual pillars of fruitful co-innovation. Trust encourages suppliers to present sensitive data and technological intelligence, while transparency allows firms to monitor development, assess risks, and uphold accountability. This sensitive balance can be achieved through performance-based agreements, joint KPIs, and regular reviews. But unsupervised collaboration may result in dependency or intellectual property risk, while overcontrol may impede innovation. Strategic procurement thus must build relational capabilities—the capability to manage interorganizational cooperation beyond mere transactions (Luzzini et al., 2015).

The addition of digital tools is also changing how innovation partnerships are being managed. Tools such as SAP Ariba Discovery and HICX enable real-time information exchange, supplier searching, and project tracking. Artificial intelligence can identify emerging technology trends or propose new suppliers based on innovative profiles and sustainability needs. Blockchain-based solutions are also being used more and more to authenticate co-development processes, protect intellectual property, and provide traceability of design changes. Digital enablers make it possible for procurement teams to manage more innovative partners in an efficient and transparent manner.

Collaboration with suppliers is particularly relevant in the food sector. Sustainable packaging, alternative protein, and precision agriculture innovation development demands the ability to engage research partners and suppliers in long-term collaborative projects. For instance, Barilla's partnership with Novamont on biodegradable packaging or Nestlé's partnership with OpenSC on blockchain-based traceability demonstrate how procurement and innovation intersect. In both cases, the buying role acted as the institutional gatekeeper which facilitated collaboration, facilitated compliance with sustainability goals, and handled the contractual complexity of innovation projects.

Innovation therefore comes out as a procurement maturity aspect that is a strategic component, intimately interlinked with other capabilities such as risk management, sustainability, and digital transformation. The ability to build and manage a web of innovative suppliers is a critical differentiator of traditional versus modern procurement organizations. Businesses that manage to institutionalize supplier innovation practices successfully not only enhance their product offerings but also strengthen resilience and competitiveness. As Bals et al. (2019) claim, "the future of procurement will depend less on how well companies negotiate, and more on how effectively they collaborate."

Finally, the capacity to generate innovation from suppliers repositions procurement as an articulation of a transactional cost center into a strategic innovation platform with the capability to link internal strategic goals with external technological potential. In the future, supplier-enabled innovation is not just a procurement solution, it is a culture transformation that redraws the firm's boundaries to facilitate co-creation, shared value, and ongoing learning across the entire supply ecosystem.

2.4 Digitalization and Procurement 4.0

Digitalization has disrupted the nature, scope, and strategic impact of procurement. The new 4.0 Industry, represented by a phygital world, procurement is no longer limited to transactional management but is now a data-facilitated coach of value creation across the end-to-end supply chain (Handfield et al., 2020). Its name is Procurement 4.0 and it refers to the digitalization of procurement and supply processes through latest technologies like automation, analytics, artificial intelligence (AI), blockchain, and Internet of Things (Corboș et al., 2023).

Procurement 4.0 has modified the stage: from cost-driven buying to value-driven buying, from manual processes to intelligent automation, and from manual cost optimization to optimal integrated value optimization. As stated by McKinsey (2023), businesses which have digitally transformed procurement functions are able to realize up to 25% cost savings, 30% cycle-time reductions, and 50% greater supplier transparency. Digital solutions not only bring greater efficiency but also better strategy in managing supplier relationships, risk, and sustainability.

The five technological engines of Procurement 4.0 are:

1. Automation and Robotic Process Automation (RPA), used for automating routine tasks such as generating purchase orders, matching invoices, and data entry to relieve human resource for strategic activities.
2. Data Analytics and Artificial Intelligence, both used in spend analysis, demand forecasting, supplier performance tracking, and anomaly detection. Predictive models assist with decision-making and risk mitigation.3.

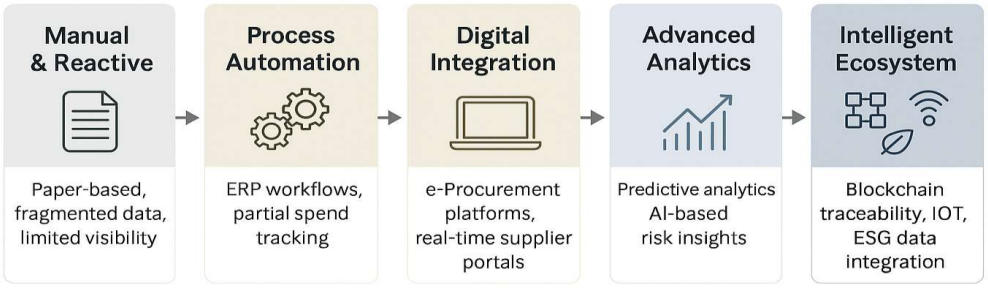
3. Cloud-based e-Procurement Platforms, as SAP Ariba, Coupa, or Jaggaer, both aggregate supplier management, bidding, and contract data, enabling instant collaboration across departments and geographies.
4. Blockchain Technology, enabling end-to-end traceability of transactions, proof of contract authenticity, and auditability of supplier compliance. Blockchain makes available immutable records of materials, certificates, and sustainability claims.
5. Internet of Things (IoT), connecting physical assets, shipments, and warehouse sensors to procurement systems to monitor inventory levels and supply chain performance in real time.

Every single technology puts together with the other creates a digital ecosystem in which data is communicated in real time, processes are automated, and decisions are data-driven. In such a construction, procurement is a "control tower," with the capacity to monitor supplier performance, look around corners in terms of risks, and dynamically allocate resources (Deloitte, 2023).

But digitalization is not solely a technological change; it is an organizational and a cultural change as well. As Van Weele (2018) asserts, success in digital procurement depends less on software and more on the ability of people to interpret data and deal with change. Companies must invest, then, in digital competencies and designing hybrid professions such as "Procurement Data Scientists" and "Digital Category Managers." They act as bridges connecting analytics and business strategies, translating technological insights into executable procurement decisions.

In order to illustrate the transformation journey, the following diagram (Figure 2.1) summarizes the steps of Procurement Digital Maturity and the way the function evolves from manual to predictive, ecosystem-based decision-making.

Figure 2.1 – Digital Procurement Maturity Framework



(Source: Adapted from Deloitte, 2023; Corboș et al., 2023; PwC, 2024)

This shift indicates how procurement maturity is increasingly defined by digital capability rather than classical metrics such as cost savings alone. Movement from Stage 1 to Stage 5 demonstrates a shift from effectiveness of operations to strategic capability in which procurement is a leading force of innovation, compliance, and resilience.

One of the most important aspects of Procurement 4.0 is data-driven decision-making. The analysis of data assists in transforming enormous quantities of unstructured data—supplier performance data, market indexes, environmental monitoring—into insights that drive action. More advanced capabilities in data analytics help procurement predict supplier risk, review ratings on sustainability, and simulate sourcing what-if scenarios under changed market conditions. For example, machine learning algorithms can identify trends related to supplier delay or changes in quality and facilitate corrective action prior to disruption.

Artificial intelligence is also changing how companies select and negotiate with suppliers. Natural language processing algorithms can read contracts for anomalies, while AI chatbots consolidate communication with suppliers and make it possible for self-service procurement

requests. Cognitive sourcing assistants, such as IBM Watson's Supply Chain Insight, integrate real-time data on logistics, weather, and price trends into purchasing strategy. These are points that show how AI transforms procurement from reactive problem resolution to proactive and prescriptive management.

Blockchain technology adds another level of strategy, offering transparency and trust all along the procurement process. In recording transactions in permanent ledgers, blockchain guarantees the genuineness of supplier certifications, sustainability assertions, and contractual milestones. For example, food companies like Nestlé and Carrefour have implemented blockchain in tracing the origin of raw materials such as milk and coffee, allowing consumers and auditors to track each supply chain step. This level of traceability enhances brand reputation and regulatory compliance, as well as ESG objectives.

Digitalization also makes joint management of the suppliers possible through real-time platforms. There is CRM cloud software that enables regular communication with the suppliers, sharing forecasts, performance, and sustainability targets. Unilever, for instance, digital scorecards applies where the suppliers can provide data on the use of energy, emissions, and labor practices, which are automatically tracked against corporate KPIs. Such tools make compliance a continuous, data-checked process rather than an occasional audit.

Despite its strengths, digital procurement also has its challenges. The most concerning are legacy system integration of data, cybersecurity risk, and user adoption barriers (Deloitte, 2023). Many companies underestimate organizational design change to achieve maximum digital value. Many problems as fragmented systems, siloed departments, and weak data governance can kill the promise of new tech. Therefore, there needs to be a complete transformation road map-one that synchronizes corporate objectives, governance models, and procurement strategy with digitalization.

Procurement digital transformation is particularly relevant in the food industry. Every single supply chain is long, global, and exposed to quality and traceability issues. With the integration of IoT sensors in fields and logistical hubs, Danone and Barilla are able to monitor humidity, temperature, and origin of raw materials in real time, reducing waste and improving product quality. Not only, but AI-powered forecasting models enable more accurate demand planning and reduce overproduction, benefiting both efficiency and sustainability.

Another thing that needs to be highlighted of Procurement 4.0 is the combination of digitalization and sustainability. Digitalization allows for environmental footprint measurement and reporting, identification of carbon-intensive suppliers, and procurement alignment with decarbonization targets. According to EcoVadis (2024), companies that use digital ESG monitoring in procurement reduce compliance costs by 20% and improve risk visibility by 35%.

Last but not least, Procurement 4.0 is not just a technological revolution, but an epistemological one: it changes how organizations think and deal with value. Data is transmuted into a strategic asset, automation into a source of innovation, and transparency into a new competitive advantage. The procurement function becomes a strategic control tower, with the potential to balance operational efficiency, sustainability, and innovation in a single digital landscape.

2.5 Sustainable and Responsible Procurement

Sustainability is increasingly one of the defining features of modern procurement. Once viewed entirely a compliance obligation or reputational risk management, it is now embraced as a strategic pillar that connects corporate purpose, competitive advantage, and long-term risk management. In this era, the emphasis on Environmental, Social, and Governance (ESG)

considerations has revolutionized completely the expectations placed upon procurement functions: purchasing is no longer merely evaluated in terms of cost, quality, and delivery, but also in terms of their social and environmental impact (ISO 20400, 2017; Bals et al., 2019).

With sustainable procurement it is meant the integration of sustainability into the entire sourcing process—from supplier choice and contract negotiation to performance measurement and end-of-life processing. According to the International Standard ISO 20400, sustainable purchasing "makes sure that an organization's purchasing choices deliver advantages not only to the company, but to society and the economy as well, and reduce negative impacts on the environment as little as possible." In this way, procurement is presented as a vector of corporate responsibility, making sustainability promises concrete realities.

Regulatory developments are also enabling this. The EU Corporate Sustainability Due Diligence Directive (CSDDD, 2024) is a game-changer for European firms. The directive requires firms to monitor and prevent adverse environmental and human rights impacts within their supply chain. Non-compliance is not only a compliance risk but also a reputational as well as financial one, since investors and customers are increasingly making decisions based on ESG performance. For purchasing units, this means developing strong supplier systems due diligence, traceability, and open reporting.

In practice, sustainable procurement involves restructuring assessment criteria for suppliers. Overcoming price and quality, procurement teams must consider the carbon footprint of suppliers, energy efficiency, waste management policies, diversity policies, and ethical labor policies. EcoVadis discloses that companies that use ESG-based procurement models experience, on average, 30% reduced supply disruption and 20% improved customer

retention rates. It implies this connection suggests that sustainability brings market trust and resilience, creating mutual value along the supply chain.

The social dimension of sustainable procurement is equally crucial. It's about ensuring decent working conditions, health and safety, human rights, and the access of small local providers or excluded groups. The UN Sustainable Development Goals (SDGs) have been taken as a reference point here, namely Goal 8 (Decent Work and Economic Growth) and Goal 12 (Responsible Consumption and Production). Procurement is thus a means of balancing corporate action with global sustainability goals.

Several multinational companies have already integrated sustainability into procurement governance. Unilever's "Partner to Win" program, for instance, has sustainability commitments as an obligatory aspect of partnership with suppliers, using KPIs such as CO_2 emissions per unit of product, the implementation of renewable energy, and minimized waste. Outstanding ESG performance suppliers are preferred suppliers and are given early option in innovation initiatives. Similarly, Nestlé's Responsible Sourcing Standard sets out environmental and social expectations from all of its suppliers, from agricultural cooperatives to logistics firms. The firm has also developed a "Farm Sustainability Index" that tracks farming practices using satellite imagery and on-farm audits.

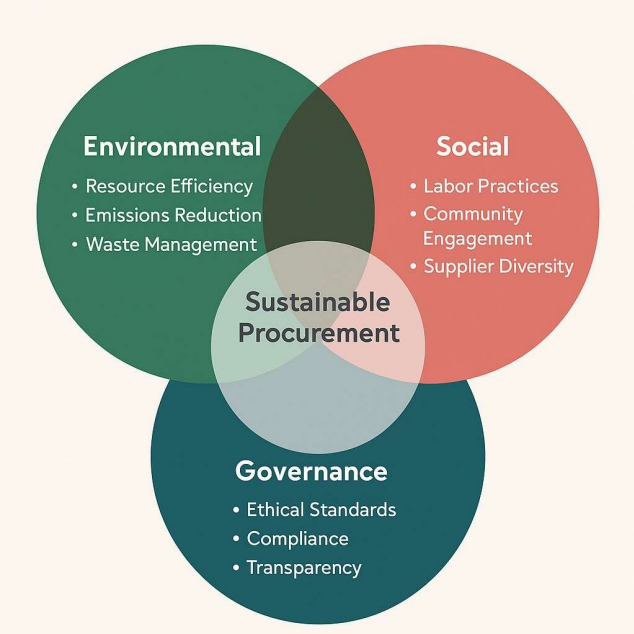
In the food industry, sustainable procurement takes on a particular importance due to the industry's close connection with natural resources, biodiversity, and local communities. Barilla's "Good for You, Good for the Planet" approach is a benchmark in this regard. Direct engagement by the company with farmers to implement sustainable agricultural methods through long-term agreements that guarantee equitable prices and technical support is one method of functioning. Through digital traceability systems, Barilla monitors emissions and resource consumption along its agricultural supply chains, rendering sustainability both an

ethical and an operational excellence. This case illustrates how sustainable procurement can improve environmental performance, supply resilience, and brand reputation simultaneously.

Managerially, the shift towards responsible procurement requires a cultural transformation within organizations. Procurement professionals have to develop new competencies—particularly in ESG analysis, stakeholder management, and sustainability reporting. As Van Weele (2018) argues, the buyer of today must transform into a "relationship manager" capable of juggling commercial objectives with social and environmental ones. This transformation also entails breaking down traditional silos: sustainability objectives can be achieved only if procurement collaborates hand in glove with R&D, operations, finance, and corporate social responsibility (CSR) departments.

Digitalization is the key. AI-powered analytics and blockchain technologies now make it possible to measure ESG performance and authenticate suppliers' claims in real time. For example, blockchain-based traceability platforms allow companies to verify the source of raw materials and ensure compliance with deforestation-free sourcing commitments. At the same time, data analytics dashboards is useful to track major ESG metrics. These tools not only enable transparency but also enhance accountability by quantifying qualitative sustainability goals.

A graphical representation of this multilateral relationship between sustainability, digitalization, and procurement value generation is shown in Figure 2.2. The model delineates how environmental, social, and governance dimensions intersect with strategic procurement aspiration such as efficiency, innovation, and resilience.



Author's elaboration based on ISO 20400, EcoVadis 2024, and EU CSDDD 2024

The relationship between procurement and sustainability also infulence buyer-supplier relationships. The focus is not on prioritizing short-term price competition, but firms increasingly establish long-term collaborations based on mutually created value. Contract types shift towards results-driven and performance-based arrangements, in which supplier incentives are linked to measurable sustainability performance. This not only enhances environmental and social performance but also sparks innovation, as suppliers are now incentivized to co-engineer solutions in line with the buyer's ESG agenda.

"Circular procurement" is the new trend, which promotes circular economy principles in procurement choices. This entails promoting recycled or renewable materials, product-as-a-service propositions, and contract arrangements that eliminate waste and provoke reuse. For example, several food companies have initiated closed-loop packaging systems, e.g., compostable products or refill programs—to reduce supply chain environmental impact. Circular procurement hence resides at the intersection of environmental sustainability and operating efficiency, both building brand reputation and cost competitiveness.

Overall, sustainable and responsible procurement is not an independent activity but rather a strategic concept linking environmental responsibility, social justice, and economic profitability. It transforms procurement into an enabler of corporate purpose in the field of governance, where profitability meets responsibility. Companies that integrate ESG values into procurement systems gain not only compliance allyships but also innovation powers, investor confidence, and future-proofed resilience. As Deloitte (2023) states, "the sustainable procurement leader of the future will be not only a buyer of goods, but a steward of shared value

2.6 Strategic Alignment and Governance

Strategic alignment and governance are the essential dimensions upon which the capacity of procurement to function as a value-creating system for the firm relies. While digitalization, innovation, and sustainability provide procurement technical and operational competencies for excellence, alignment and governance ensure that these enablers are in consonance with the firm's high-level strategy. Without alignment, procurement can turn into an ancillary administrative activity rather than a strategic performance driver (Trent, 2007; Van Weele, 2018).

Strategic alignment is the extent to which procurement objectives are aligned with business objectives. In more developed organizations, the procurement function is no longer an independent cost center but rather an interfunctional partner collaborates with finance, operations, R&D, and sustainability functions to shape long-term priorities. As Bals et al. (2019) state, strategic alignment positions procurement as a "strategic enabler" rather than a "support function" and allows it to make innovation, investment, and growth for the market. For this purpose, common performance measures, shared vision, and an accountability system across organizational levels through a governance system are needed.

Wrong coordination begins with integration into strategic planning. Procurement strategies must be directly derived from corporate ones, thereby ensuring that sourcing decisions are made in line with financial as well as non-financial objectives. One example could be a company's internationalization strategy would prioritize suppliers with global logistics capabilities, while a sustainability strategy would prioritize local sourcing and circular economy partnerships. In any case, procurement not only enables operational fulfillment but also enables strategic differentiation. The alignment process therefore consists of ongoing communication between leadership in procurement with senior management, often formalized through a steering committee or category councils overseeing category strategies, investment priorities, and innovation initiatives (Deloitte, 2023).

At the same time, governance comes together with strategic alignment: it defines how procurement decisions are made, by whom, and how performance is monitored. An effective governance system establishes clear decision rights, roles, and reporting lines that balance control with agility. Centralized governance offers consistency, risk management, and compliance, but decentralized approaches permit flexibility and responsiveness to local market conditions. In practice, most multinationals possess hybrid governance models that combine centralized policy with local execution. Such a "federated" system allows global procurement offices to set standards, monitor KPIs, and manage lead suppliers while regional teams figure out specific regulatory and cultural contexts.

The interlink between performance and governance has been widely demonstrated both in practice and theory. According to PwC (2024), more mature procurement governance within companies results in up to 20% higher rates of realized savings and 35% better supplier compliance. This is a consequence of the availability of formal processes such as category management frameworks, contract lifecycle management (CLM) systems, and internal audit

processes. Governance is thus the pillar of support for procurement maturity: it provides stability, accountability, and traceability.

Performance measurement is one of the most important elements of procurement governance. Measuring strategic contribution requires more than just standard procurement metrics such as cost savings or purchase order cycle time. Modern governance frameworks use a balanced scorecard approach, where financial, operating, and strategic KPIs are blended. For example, supplier innovation rate, ESG score improvement, and risk mitigation capacity are being incorporated into performance dashboards along with traditional efficiency metrics. These multi-dimensional measures enable organizations to quantify procurement's value to innovation, sustainability, and resilience simultaneously.

Communication and transparency are as important in government. Procurement must be an organizational dialogue with outside and inside stakeholders where commitments and expectations are always clarified. Transparency in the selection and evaluation of sellers and contract administration suppresses corruption and risk of bias as well as enhances cooperation and trust. Blockchains and digital technologies now provide unprecedentedly high visibility across global supply chains, enabling compliance and ethical responsibility

Real-world examples illustrate the way strategic alignment and governance can have an impact on procurement performance. Barilla's procurement governance system is aligned directly with its corporate sustainability vision "Good for You, Good for the Planet." The firm includes sustainability KPIs, such as CO_2 reduction, local sourcing, and supplier certification, in procurement decision-making and incentive schemes. Siemens does have a "Global Procurement Council," though, which manages category strategies across divisions and aligns them with corporate innovation and risk goals. This type of model for centralized management enables world-wide efficiency with local adaptability potential through digital

surveillance hardware. Similarly, Unilever's procurement activity is fully integrated into its "Compass Strategy," aligning sourcing behavior with environmental and social impact targets.

Governance also comes in handy for reducing ethical risk and regulation compliance. With increasingly complex global supply chains, procurement has the responsibility to comply with international regulations such as the EU Due Diligence Directive and anti-bribery regimes (OECD, 2024). This entails the application of supplier codes of conduct, whistleblowing policy, and audit procedures to provide environmental, labor, and governance standards compliance. Ethical management gives the firm's reputation and reduces exposure to legal and financial risk and builds broader societal trust.

As a buyer point of view the ultimate objective of strategic alignment and governance is to enable the procurement organization to function as a strategic integrator—a function that mediates between business strategy, technological possibility, and external ecosystems. For this purpose, companies must build leadership capabilities that go beyond negotiation or process management. Procurement leaders must possess strategic foresight, analytical literacy, and relational intelligence, which allows them to link operational activities to corporate vision. Training and leadership development programs are therefore central components of governance maturity.

In brief, governance and strategic alignment are the "invisible architecture" of modern procurement. Thanks to them it is possible to understand how strategy is implemented, accountability is assigned, and value is measured. On the other hand without them, even the most advanced digital or sustainability programs fall victim to fragmentation. With them, procurement becomes an integrated, transparent, and strategic ecosystem that is capable of driving innovation, enforcing compliance, and guaranteeing long-term value creation.

2.7 Measuring Procurement Performance and Value

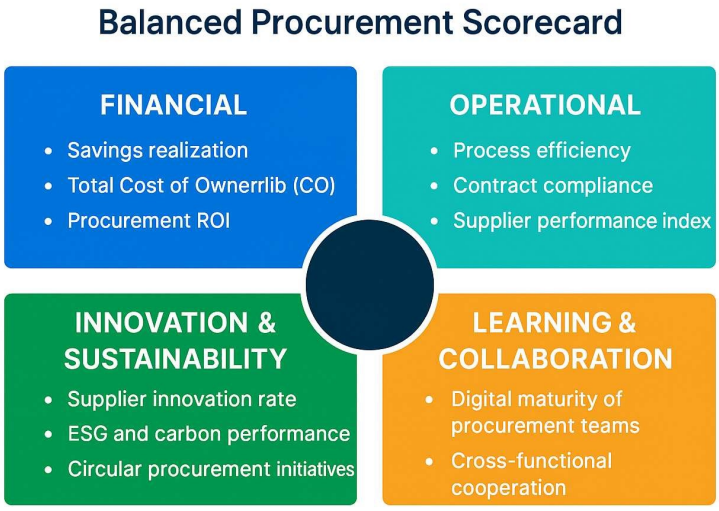
How procurement measures performance has long been one of the central challenges of procurement management. Traditionally, procurement success was measured through cost reduction and compliance metrics — focusing on "how much money was saved." However, in the era of modern procurement, such a narrow view fails to capture the broader strategic contribution of the function. Procurement now generates value not only through savings but also through innovation, sustainability, risk mitigation, and organizational agility (Bals et al., 2019; Van Weele, 2018).

It, therefore, requires a multidimensional approach, capable of integrating financial, operational, strategic, and sustainability indicators. This shift from a transactional to a strategic measurement logic reflects the transformation of procurement into a governance and value-creation system. The objective is not only just to demonstrate efficiency but also to prove strategic impact — how procurement contributes to competitiveness, innovation, and long-term resilience. According to Bals et al. (2019), modern performance systems must reconcile two fundamental perspectives: "value for money" and "value beyond savings." The former concerns the optimization of resource utilization; the latter measures procurement's influence on corporate innovation, stakeholder relationships, and sustainable performance. To achieve this balance, organizations have adopted comprehensive frameworks such as the Balanced Procurement Scorecard (BPS), derived from Kaplan and Norton's classic balanced scorecard model.

The Balanced Procurement Scorecard translates strategic objectives into measurable outcomes, articulated through four complementary perspectives:

1. Financial performance – measuring efficiency, savings realization, total cost of ownership (TCO), and return on investment (ROI).

2. Operational excellence – evaluating process efficiency, contract compliance, lead time, and supplier performance.
3. Innovation and sustainability – assessing supplier innovation rates, ESG compliance, and contribution to corporate sustainability goals.
4. Learning and collaboration – monitoring team development, digital maturity, and cross-functional integration.



Author's elaboration based on Bals et al., 2019; Kaplan & Norton, 1996; Deloitte, 2023

This strategy guarantees that the performance of procurement is assessed not only via the financial results but also by its overall strategic effect. As an example, a decrease in supplier lead time might not only speed up innovation but also help ESG compliance and customer satisfaction — these are benefits that substantially extend beyond the immediate cost savings.

Quantifiable measures, like money spent under management, cost avoidance, and TCO reduction, give clear financial transparency. However, they should be supported by

qualitative measures, such as supplier engagement, employee skill enhancement, and culture of sustainability within the organization. The integration of these two aspects provides a complete picture of procurement maturity. Besides, digital dashboards have become very important instruments for performance that is tracked in real time. Contemporary ERP and SRM systems pull together data from various sources, thus making the visualization of KPIs flexible and up to date. Procurement executives have the opportunity to keep an eye on supplier reliability, ESG compliance, as well as innovation metrics at any time. This real-time insight not only broadens the options for making decisions but it also upholds the organization's integrity, transparency, and accountability.

The other trend that is emerging in performance measurement is the use of predictive analytics that employs AI for predicting procurement results. An algorithm can figure out how the decision regarding a particular strategic source will affect in the future the cost, the carbon footprint, or the risk of supply. With the help of predictive models, performance management turns into a forecasting tool that can be used for aligning corporate sustainability and risk objectives with procurement activities.

Moreover, governance is equally important in the performance measurement system. Efficient KPIs need to be associated with authority and incentives for the performance they generate. Leading organizations have procurement goals embedded into management scorecards and systems for remuneration that create the link between individual accountability and corporate objectives. Therefore, the governance of measurement facilitates the strategic function of procurement thus, increasing its role from operational executor to strategic partner. Furthermore, procurement performance in the context of corporate value creation should also be communicated effectively. The ability of converting procurement accomplishments into business language- for instance, the articulation of

sustainability improvements as financial risk reduction or innovation acceleration-increases the prominence of procurement to top management. In addition, being open about ESG and financial disclosures attracts investors and builds the company's good reputation.

At the end of the day, determining how well procurement is doing is not merely an administrative chore but instead, a vital strategic endeavor that shapes leadership, resource distribution, and organizational culture. With the implementation of multidimensional and data-driven measurement frameworks, companies become capable of showing how procurement is instrumental to growth, innovation, and sustainability. Measurement is thus, a legitimization of procurement's role as a strategic one while concurrently unveiling, quantifying, and continuously enhancing its contribution to competitiveness.

In sum, the Balanced Procurement Scorecard constitutes a thorough and ever-changing instrument for evaluating the worth of the contemporary function of procurement and in which way it can be valued. It links together financial metrics and non-financial outcomes thus, reflecting the intricacies involved in procurement's contribution to long-term sustainable value creation. By employing such a scheme, procurement is transformed into not only a mean of cost control but also a measurable driver of organizational excellence.

2.8 The Seven Dimensions Framework of Modern Procurement

This chapter has demonstrated how modern procurement is no longer a transactional or cost-focused function but a multidimensional strategic system that combines technological, organizational, and sustainability drivers to create long-term value. This transformation reflects a paradigm shift where procurement is evolving from a support activity to a strategic capability that links corporate goals with external ecosystems.

Based on the literature review and theoretical developments explored earlier, the Seven Dimensions Framework of Modern Procurement stands for a conceptual synthesis of this evolution. These are: Risk Management, Innovation, Digitalization, Sustainability, Strategic Alignment, Agility, and Measurement-they symbolize the guiding pillars through which procurement will create and protect value within contemporary organizations. Each of these dimensions is unique but not independent; it is interconnected in an integrated architecture of competitiveness and resilience.

Risk Management makes sure that stability and continuity are maintained in a volatile environment. Anticipating disruptions, diversification of suppliers, and use of predictive analytics: procurement transforms the uncertain variable into one which is controllable. The resilient procurement system does not try to eliminate the risk but to manage it intelligently, learning and adapting through each disruption.

Innovation expands procurement beyond efficiency toward the creation of value. SEI and ESI present the function as enabling breakthroughs in technology and process. Procurement can then contribute directly to product differentiation, sustainability, and long-term competitiveness by fostering collaborative partnerships and opening up innovation ecosystems.

Digitalization provides the technological infrastructure for such a transformation. Indeed, AI, automation, analytics, blockchain, and IoT reshape sourcing processes, build transparency, and drive predictive decision-making. Procurement 4.0 is much more than this-a technological evolution-but rather a new epistemology of management based on data-driven intelligence: here, decision-making becomes proactive and evidence-based.

Sustainability puts purchasing in a focal position where corporate responsibility and strategic performance meet. It transforms the purchasing function into a driver for environmental

protection, ethical standards, and social equity by integrating ESG, due diligence among suppliers, and circular procurement models. In this vein, sustainable procurement is both a compliance mechanism and a source of competitive advantage since it aligns the firm's operations with stakeholder expectations and future regulations.

Strategic Alignment provides the connective tissue that links procurement objectives to corporate strategy. When the objectives of procurement reflect business priorities, such as innovation, sustainability, or internationalization, the function becomes a strategic partner rather than an operational executor. Governance systems, clear decision rights, and unified KPIs ensure that sourcing contributes directly to corporate success and accountability.

Agility is about the adaptive capacity of procurement. In an environment defined by constant disruption, agile procurement combines the finest attributes of speed and flexibility with structural robustness. It allows for quicker reconfigurations of supply bases, faster decision-making, and proactive responses toward emerging risks. Agility provides resilience that will enable organizations not just to survive disruptions but to evolve through them-managing to transform crises into learning opportunities.

Finally, Measurement legitimizes the strategic contribution of procurement. Multidimensional performance frameworks, such as the Balanced Procurement Scorecard, give organizations the capability to assess a number of areas simultaneously: financial efficiency, operational excellence, innovation, and sustainability. Measurement quantifies the value of procurement's impact and thereby cements its strategic relevance within corporate governance.

Together, these seven dimensions form a systemic model of procurement maturity, where each capability reinforces the others. Risk management and agility provide resilience, innovation and digitalization generate progress, sustainability and alignment provide

legitimacy, and measurement provides transparency and control. The strength of modern procurement lies in its integration: it is not any single dimension but their dynamic interplay that determines strategic success.

The framework will also build a conceptual bridge between theory and practice. From a theoretical point of view, the paper embeds insights from the Resource-Based View (Barney, 1991), Dynamic Capabilities (Teece, 2007), and the Sustainable Value Creation perspective (Hart & Milstein, 2003). From the managerial point of view, it gives a road map to organizations willing to evolve from a traditional cost-oriented purchasing model toward a holistic, future-ready procurement model.

The Seven Dimensions Framework provides an analytical tool but also managerial guidance. It helps the researchers to categorize procurement practices and compare them across different industries, while in turn giving practitioners a more systematic lens with which to consider strategic planning and performance evaluation. The following chapters will underline how these dimensions have increased relevance for the food industry due to converging factors of digitalization, sustainability, and resilience from ever-increasing regulatory and consumer pressures.

At the end, modern procurement needs to be considered as an integrated ecosystem of strategic capabilities whose effectiveness is derived from how well its seven dimensions are aligned and in balance. It is only those organizations that will succeed in harmonizing them-combining technological intelligence, ethical governance, and adaptive resilience-that will turn procurement into a lasting source of innovation, competitiveness, and sustainable growth.

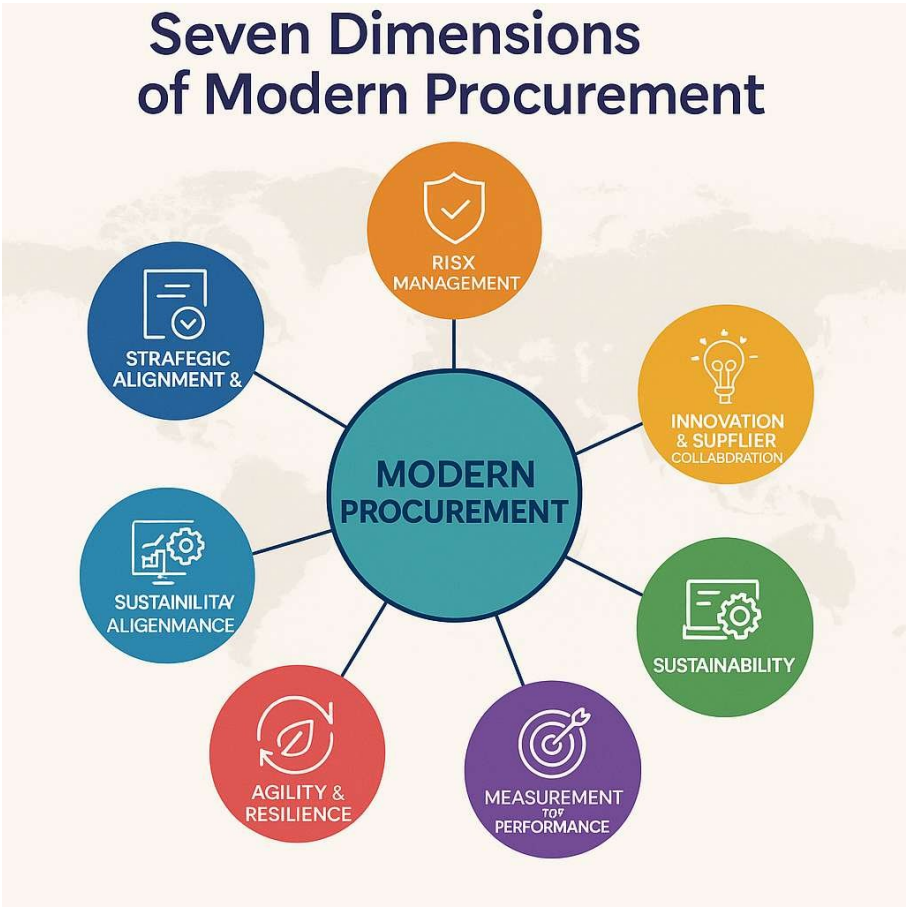


Figure 2.8 – The Seven Dimensions of Modern Procurement

3. Methodology

The methodological approach adopted in this thesis has been designed to allow a thorough and consistent comparison between the best procurement practices, as they emerge from academic and professional literature, and the processes actually observed within a multinational food sector. The aim was not only to map similarities and divergences, but also to interpret their strategic significance in terms of value creation, risk mitigation and operational efficiency.

From the beginning, the research was set up as a qualitative, descriptive and interpretive study. Such a choice was dictated by the nature of the available data and the demand for research, which required a rich and thorough understanding of organizational dynamics rather than statistical generalization. The core of the empirical work was founded on direct observation of procurement activities during a professional placement, supported by an extensive review of secondary sources.

In coherence with the theoretical model presented in Chapter 2, this research adopts a multidimensional perspective that reflects the Seven Dimensions Framework of Modern Procurement. The methodology has been structured to explore how these dimensions—risk management, innovation, digitalization, sustainability, alignment, agility (now conceptually integrated within resilience), and measurement—manifest in real business contexts. This analytical lens allows the study to translate abstract theoretical constructs into practical observations derived from secondary sources and company evidence.

The primary source of data was non-confidential observations of procurement processes in three main categories: Sales & Marketing, Human Resources and Facility Management. The

internship made it possible to constantly follow the decision-making flow, from the initial request from internal stakeholders to the final awarding of tenders. This direct exposure provided a detailed understanding of operational procedures, governance structures and stakeholder interactions, which is difficult to achieve through desk analysis alone.

In parallel, secondary sources played a fundamental role in the construction of the analytical framework. Public company reports, sustainability reports and sector benchmarks produced by leading consultancy firms such as Deloitte and McKinsey were systematically examined in order to contextualize the observations collected. Academic literature on strategic procurement, supplier relationship management, ESG integration and risk management has provided conceptual lenses through which to interpret practical evidence.

Given the impossibility of accessing internal corporate data or carrying out interviews, the research is based on a desk-based comparative method by combining academic literature, institutional sources, and corporate reports. This choice is both pragmatic-it avoids time and resource consumption related to field research-but also theoretically justified, as this will allow the triangulation of several sources of data to ensure that results are valid and reliable, as put forward by Yin (2018). Each case considered in Chapter 4 will therefore be taken as a unit of comparison rather than as an isolated case study, as suggested by Eisenhardt (1989) in her theory-building from comparative case research.

The study focuses on leading companies in the agri-food sector, whose procurement transformation processes have been documented publicly. These organizations—selected based on data availability and industry relevance—serve as empirical benchmarks to assess the maturity of procurement practices according to the dimensions identified in Chapter 2. The use of secondary sources, such as sustainability reports, digital transformation

assessments, and supply chain audits, ensures that the evidence remains verifiable and comparable.

Data collection has been organized into three key stages: first, through the identification of existing academic and professional literature, systematically searching databases such as Scopus, ScienceDirect, and Google Scholar for keywords including but not limited to modern procurement, supply chain resilience, digital transformation, and ESG integration; second, sector-specific knowledge was gathered from consulting firm publications such as Deloitte, PwC, McKinsey, institutional reports including the FAO, OECD, and EU Commission, and corporate sustainability disclosures; and third, data were organized and coded into thematic categories according to the seven dimensions model.

Thematic categorization was informed by the approach of Braun and Clarke's 2006 qualitative thematic analysis, allowing patterns to emerge from the data while staying closely related to theoretical constructs. Each dimension of the Modern Procurement Framework-innovation, for example, was coded using keywords: supplier collaboration, co-development, and open innovation; sustainability with ESG reporting, traceability, and due diligence; and digitalization with AI, automation, and data analytics. This structure ensures methodological consistency between theory and evidence.

The validation in the present research was basically ensured by the use of triangulation. The combination of academic, institutional, and industrial sources serves to minimize bias and adds weight to the findings. Data selection and interpretation are also transparently presented, as Creswell (2018) suggests for maintaining qualitative research standards; every stage of the analysis should be verifiable or subject to critical evaluation.

The research also applies an interpretative epistemology, whereby the comprehension of procurement phenomena is mediated by managerial perceptions, industry context, and the

evolution of technological and regulatory environments. Accordingly, its findings are not represented as universally generalizable but as analytically transferable to give insights into both academic discussion and managerial practice, as suggested by Yin (2018).

Another important characteristic of this methodology is its comparative nature. Indeed, through the observation of several companies operating under similar market conditions, their convergences and divergences regarding procurement strategy, with special attention to the integration of digital, sustainable, and innovative practices, will emerge. This cross-case logic provides the empirical basis for Chapter 4, where the procurement transformation of the leading agri-food firms analyzed will be compared through the lens of the Seven Dimensions Framework. Then, in Chapter 5, the discussion of the comparative results links the theoretical assumptions to the actually observed managerial practices.

Admittedly, limitations arise. The study cannot capture internal organizational dynamics or any confidential strategic decision-making due to the absence of direct interviews or proprietary data. This limitation is, however, partly taken care of by the depth of the available secondary data on large corporations involved in food, which regularly publish comprehensive ESG and procurement reports. The focus on this type of sources enhance transparency and greatly enhances replicability, working within academic expectations for a qualitative desk-based study. In the end, this methodological structure guarantees continuity between the theoretical framework-developed in Chapter 2-and the empirical discussion carried out in Chapter 4. This way, the analysis proceeds from conceptualization to observation, applying the Seven Dimensions Framework both as a lens for interpretation and as a diagnostic grid to approach procurement maturity within the agri-food sector.

4 – Case Analysis: The Transformation of Procurement in the Food Industry

4.1. Context and Company Overview

The professional experience took place within the procurement function of a multinational food industry company with a complex organizational structure and well-defined purchasing processes. Although it cannot report company names or confidential data, it is possible to describe a context in which procurement is not only an operational support function, but a strategic pillar of the organization, in line with the perspectives offered by the literature This strategic setting is reflected in the strong interconnection of procurement with other business functions and its direct responsibility not only for cost containment, but also for quality of service, regulatory compliance and alignment with ESG objectives.

Within the indirect procurement team, activities covered three distinct areas:

1. Sales & Marketing (SAM), with the management of vendors related to advertising campaigns, events and communication services.
2. Real Estate & Facility Management, providing support to production plants for maintenance, technical supplies and space management services.
3. Human Resources (HR), where the tender for meal vouchers was followed independently, from the definition of the requirements to the award proposal.

From an organizational perspective, procurement in this company is not just an operational support function but a central part of strategic management. The role of procurement is to link the priorities of the company — such as innovation, cost efficiency, and sustainability — with the dynamics of supplier markets. This approach directly reflects the theoretical assumptions in Chapter 2, where procurement is conceptualized as a multidimensional

system that integrates risk management, innovation, digitalization, sustainability, alignment, and performance measurement.

In fact, the Italian branch has progressively developed a more mature procurement governance model. The function is no longer a purely transactional unit, but rather a strategic business partner aligned to both corporate and regional objectives. The integration between global guidelines and local execution embodies what Chapter 2 defined as "strategic alignment": a governance system that balances centralized control with local flexibility.

The procurement organization is structured according to a category-by-category strategy and supported by transversal competencies including finance, legal affairs, and sustainability management. This setup thus offers cross-functional collaboration and continuous dialogue at departmental levels. The Italian office also contributes to the definition of the European sourcing strategies and plays a role as a pilot site for digital and process innovation initiatives.

This necessitates alignment between global strategy and local implementation and is very important for consistency in procurement processes to ensure agility in operations. The governance model of the company reflects the hybrid structure as represented in the literature, referred to by Van Weele (2018) and Deloitte (2023), where policies and KPIs are defined by centralized coordination, while decentralized units ensure responsiveness to the local market. Specialization, data transparency, and accountability within procurement operations are further enforced by the presence of dedicated category managers.

Furthermore, procurement contributes to the company's sustainability agenda. The introduction of ESG criteria for supplier selection and the use of digital platforms for checking supplier performance are in full accord with the "Sustainable and Responsible Procurement" dimension introduced in Chapter 2. The company follows a scoring system

that includes environmental, social, and governance parameters for supplier assessment according to ISO 20400 and the EU Corporate Sustainability Due Diligence Directive (2024). This strengthens the contribution of procurement to corporate reputation and risk management.

This firm selection is consistent with the comparative and desk-based approach that has been introduced in Chapter 3, from a methodological point of view. Its procurement practices are reported in detail in sustainability reports, corporate presentations, and supplier guidelines, providing sufficient data for an analysis along the seven dimensions of modern procurement. This provides consistency in comparison to other organizations, which will be analyzed later in Chapter 4, and thus coheres between theory, method, and empirical observation.

Overall, the company context is highly mature in terms of procurement and has an explicit strategic direction. Its governance model, integration of sustainability, and focus on cross-functional collaboration make it highly relevant to explore the development of procurement practices in large industrial organizations and how such practices could serve as benchmarks for the food sector. Therefore, in this respect, the analysis of this company provides a reference framework to interpret the subsequent cases included in the food industry. The lessons derived from this context—particularly those concerning alignment, governance, and ESG integration—will support the comparative discussion that follows, which will identify convergence points and differences between industrial and agri-food procurement models.

4.2. The Role of Procurement within the Company

Procurement is central to value creation for any organization in the modern world. The department is tasked with a vast array of activities ranging from supplier selection, contract

negotiation, cost optimization to the continuous monitoring of performance and compliance. In the Italian subsidiary, procurement sits within the Operations division and works closely with Finance, Legal, and Sustainability departments to ensure that purchasing decisions are in line with the corporate strategy.

The function's mission has deepened and now goes beyond cost control to include the management of strategic partnerships, sourcing of innovation, and sustainability enhancement. In this sense, the chapter moves beyond the conceptualization of procurement as a competitive advantage driver in Chapter 2. Hence, several dimensions of seven talked about above - strategic alignment, digitalization, sustainability, and performance measurement - are undertaken by the procurement department of the company.

The procurement process is backed by a well-defined governance model that is based on global policies and implemented through local guidelines. This guarantees both consistency and flexibility across the regions. Category Managers are responsible for the creation of sourcing strategies, market analyses, and supplier relationship management that is based on standardized criteria.

The governance logic mirrors the "Strategic Alignment and Governance" aspect to be discussed in Chapter 2, where the authority for the decision-making is shared between global and local levels. Accordingly, the company follows a hybrid model of governance wherein global category strategies are laid down at the headquarters while the tactical decisions are decentralized to the local teams. This method enables the company to meet local needs without sacrificing strategic coherence (Deloitte, 2023; Van Weele, 2018).

Procurement is heavily supported by state-of-the-art digital tools like the fully integrated ERP system and a supplier management platform that provides a clear view of spending and compliance. These solutions facilitate the end-to-end automation of essential processes-from

supplier onboarding to contract approval-and also make the monitoring of KPIs related to a supplier’s performance possible in real-time.

Such initiatives are a concrete example of the "Digitalization and 4.0 Procurement" dimension. In the company, analytics, e-procurement tools, and data dashboards provide full transparency, reduce the administrative workload, and introduce a data-driven culture into decision-making. Besides, digitization enables the incorporation of sustainability metrics in procurement thus making ESG data easy to track and compare across suppliers.

Another significant aspect of the procurement department's role in the company is that it can directly lead to corporate sustainability and compliance. The function works closely with the Sustainability Office in evaluating all suppliers using ethical, environmental, and social criteria by means of regular audits, sustainability questionnaires, and the insertion of ESG clauses in contracts.

These actions depict the implementation of the "Sustainable and Responsible Procurement" dimension outlined in chapter 2. The procurement team uses sustainability scorecards that are guided by ISO 20400 principles and EcoVadis assessments, thus considering the environmental performance, labor practices, and governance quality while evaluating suppliers. In this way, procurement is not only the protector of corporate integrity but also a promoter of responsible innovation.

Moreover, the procurement department is on board with the company's innovation plan, helping to find those suppliers who could introduce technological solutions that lead to efficiency gains, digitization, or new product development. It supports collaboration by co-designing and piloting with its suppliers, especially in the categories related to automation and IT services.

This innovation facilitated by the supplier is in line with the dimension of "Innovation and Supplier Collaboration" from the theoretical framework. The procurement function is the interface that connects the external technological capabilities with the internal strategic objectives, thus leading to the adoption of new solutions that strengthen the competitive position of the firm.

The KPIs for evaluating procurement performance consist of both quantitative and qualitative metrics. Some of the measured parameters include cost efficiency, supplier delivery reliability, and process cycle time; in addition, sustainability indicators like emissions reduction and diversity in the supplier base have also been incorporated. It is a multidimensional performance evaluation as expounded in Chapter 2 "Measurement", where the achievement of procurement is not only measured by the savings made but also by the contribution to innovation, ESG performance, and resilience. The corporation uses a balanced scorecard approach to keep track of progress so as to ensure that every initiative taken is in line with the long-term corporate objectives. The strategic importance of the function is largely based on its central role within corporate decision-making. Representatives of procurement are on the cross-functional committees that review investment priorities, supplier risks, and sustainability roadmaps. By doing this, procurement is seen as a strategic partner rather than a mere executor of buying tasks. This strategic transition is in line with the broader change that is currently taking place in modern procurement, which is described in Chapters 2 and 3. The company is therefore an example of how a well-designed procurement governance model can create value beyond cost savings through the integration of digitalization, sustainability, and innovation into a clear strategic framework.

4.3 Activities Performed during the Internship

During my internship period, several activities were carried out concerning the Procurement Department of the company, focusing mainly on indirect procurement. The main objective was to support the sourcing process of the different service categories and contribute to the improvement of supplier management practices.

Daily activities included the scouting of suppliers and/or quotations, data collection, and support in the evaluation of proposals according to economic, technical, and sustainability criteria. The tasks also included document management, internal communication with various departments, and help with the preparation of reports for the management team.

These activities reflect the operationalization of the procurement cycle and provide practical evidence of how theoretical models of procurement maturity are applied in a real corporate environment. As explained in Chapter 2, their efficiency depends on how well integrated these are with digital tools, governance mechanisms, and ESG principles-all of which were concretely observable during the internship

One of the major projects carried out was related to the organization of a competitive tender for the procurement of employee benefit services. The activity included an analysis of the proposals from suppliers, evaluation of commercial conditions, and verification regarding contractual compliance.

This experience gave direct insight into the "Risk Management" dimension of procurement. The process of verifying the reliability of suppliers was needed, continuous monitoring of service continuity, and verification of each potential operation or reputational risk by objective criteria and structured decision matrices were in line with governance models discussed in literature ISO 31000, 2018; Deloitte, 2023.

Another important task was to assist the purchasing department in conducting a sustainability screening of suppliers. The provided analysis focused on the verification of ESG certifications and participation in corporate sustainability programs, in line with the “Sustainable and Responsible Procurement” dimension of Chapter 2, since it is about integrating environmental and social criteria into supplier selection. The company used predefined templates and digital platforms for data collection regarding CO_2 emissions, diversity policies, and compliance with labor regulations.

Besides this, the internship provided opportunities to engage in activities related to the digital transformation of procurement within the company, which included introducing automated approval workflows and a supplier management system that greatly simplified internal processes and increased transparency.

This activity best represents the "Digitalization and Procurement 4.0" dimension. Accordingly, the implementation of e-sourcing platforms, combined with ERP-based workflows, ensured a faster information exchange, improved traceability, and reduction of administrative workload. The data visualization dashboards also contributed to a more effective management control, with the possibility of real-time monitoring of key performance indicators.

The collaboration with other departments was an integral part of the internship. Day in and day out, the Procurement team interacted with Finance on budget validation issues, with Legal on contracts, and with Human Resources on service-related categories. Such cross-functional communication would ensure coherence between the functional needs and procurement strategies.

The collaboration of different departments involved in the transaction process represents a form of "Strategic Alignment and Governance". Continuous interaction between

Procurement and other corporate functions secures sourcing decisions that support the company's strategic priorities: innovation, cost optimization, and sustainability integration. Such alignment reflects the previously discussed hybrid governance model, which allows combining centralized policies with decentralized decision-making

Another related area of involvement was in supplier performance monitoring. The intern contributed to the updating and verification of supplier evaluation files, which contained metrics on service quality, delivery reliability, and compliance.

This activity illustrates the "Measurement" dimension of contemporary procurement. Systematic collection and analysis of suppliers' performance data enable a company to assess the effectiveness of procurement in ways other than pure financial outcomes. Examples of metrics include process efficiency, sustainability compliance, and responsiveness of suppliers. In this way, the performance measurement supports a holistic evaluation compatible with the Balanced Procurement Scorecard in Chapter 2. In all, the internship experience gave a broad view of procurement operations in a multinational company, showing how strategic procurement ensures efficiency, transparency, and sustainability. From an analytic viewpoint, the internship enabled the observation of a number of enablers of procurement excellence according to the theoretical framework: namely, the use of digital technologies, the integration of sustainability metrics, the diffusion of risk management practices, and the establishment of clear governance mechanisms. These observations will provide the empirical basis for the comparative analysis in the subsequent sections, which will consider how similar principles are put into practice within leading companies of the food industry.

4.4 Analysis and Critical Reflection

Working in the Procurement Department placed me in a front-row seat to both the everyday tensions and the small victories of that transformation from traditional buying to strategic procurement. The activities I observed and participated in-from tender preparation to supplier scoring and dashboard monitoring-are not just operational tasks; they form the visible surface of deeper organizational choices about priorities, resources, and values. The most surprising finding was how often procedural improvements-a new workflow, for instance, or a better dashboard-revealed larger gaps in alignment or governance that no single tool could fix.

At the practical level, the procurement processes observed were well-structured and followed clear corporate templates. However, when we consider these through the lens of the Seven Dimensions Framework developed in Chapter 2, a more nuanced picture emerges. Risk management practices were in place and formalized (supplier checks, contingency options), but they often remained tactical rather than strategic — oriented toward avoiding the next disruption rather than building systemic resilience. In other words, the company is good at plugging leaks but less consistent at redesigning the barrel. That is a subtle distinction, but an important one: resilience requires learning loops and investment in supplier ecosystems, not only reactive measures.

Digitalization had a visible, positive effect: e-procurement platforms and automated approvals speeded up processes and improved traceability. Still, the benefits were very uneven: data existed, but data-driven decision-making depended on who knew how to read the dashboards. In practice, this created pockets of dependency on a few digitally fluent actors. My observation is that digital tools multiply possibilities but also require deliberate investments in skills and routines so that insights become collective, not personal assets.

Sustainability was embedded in policies and supplier questionnaires, and auditors regularly checked certification documents. Still, there was a predictable distance between tick-box compliance and strategic ESG integration. Suppliers with high ESG scores were preferred, yet the procurement function lacked systematic processes to convert supplier sustainability strengths into joint innovation or shared value projects. In other words, sustainability was used more as a screening criterion than as a platform for collaboration. This is common in many organizations the move from compliance to co-innovation takes time and trust.

One positive element was the clear effort to align procurement with corporate strategy: procurement representatives took part in cross-functional committees and category managers were briefed on strategic priorities. But often, that alignment stopped at the level of representation: Procurement had voice but not always the mandate to reallocate resources or redesign supplier contracts in ways that would support longer-term strategic bets. That governance tension-representation without decision power-reduces the potential strategic impact of procurement.

Looking at supplier collaboration and innovation, the company showed openness to engaging suppliers in pilots and proofs of concept. Collaborations tended to be episodic and project-based rather than based on long-term joint roadmaps. Supplier-enabled innovation requires not just a pilot here and there, but governance structures that support IP sharing, co-funding, and shared KPIs-which were only partially there. From a management point of view, formalizing such structures would allow procurement to move from being an enabler of one-off projects to a continuous engine of incremental and radical innovation.

On the measurement side, the company used a quite encouraging balanced set of KPIs beyond pure price metrics. However, I observed a limited use of predictive indicators that could anticipate either supplier stress or market volatility. The Balanced Procurement

Scorecard is conceptually present in Chapter 2, but its predictive and forward-looking corner is underdeveloped: procurement measures the past well but does less to forecast the future. Strengthening predictive analytics would allow moving from reporting to steering.

Another human, and often overlooked, aspect is culture. People matter: relationships, trust, and informal networks made a real difference in being able to act fast during pressure moments. In several instances I saw how a strong personal rapport with a supplier accelerated problem resolution far more than formal contract clauses. This confirms that governance and digital tools must go hand in hand with investment in relational capabilities: negotiation skill, transparency norms, and routines for joint problem solving. Finally, reflecting on the limitations of using publicly available company documents and my internship observations is that, while desk-based evidence gives a reliable view of policies and declared practices, it can miss informal practices, internal trade-offs, and confidential strategic decisions. For this reason, the following sections' comparative analysis becomes crucial: through triangulation across companies and sources, we can identify patterns which are not case-specific and propose realistic managerial recommendations for SMEs in the food sector. Managerial implications that emerge from this reflection are straightforward but consequential. First, digital investments must be complemented with capability building-dashboards are useful only if people know how to translate data into decisions. Second, sustainability needs to be reframed from a gatekeeping mechanism to a co-development opportunity with suppliers. Third, procurement governance needs clearer decision rights whereby procurement can meaningfully allocate resources or adjust contract structures to pursue strategic outcomes. Finally, measurement systems should evolve toward predictive analytics in order to transform procurement from a reporting function into a strategic navigator. In conclusion, the internship confirmed that modern procurement is as much about people and governance as it is about tools and processes. Theoretical models — such as the

Seven Dimensions Framework — are useful because they render visible the invisible: they reveal that an automated workflow or a sustainability questionnaire is part of a larger system that needs to be designed. At a practical level, small changes — clearer mandates, training programs, longer supplier roadmaps — can have disproportionate effects if they are targeted at the systemic frictions identified here. These threads will be pursued in comparison of the food sector which follows in Section 4.5 onwards.

4.5 Lessons Learned and Managerial Implications

This internship has provided not only technical knowledge but a deeper understanding of how procurement can evolve to be a real strategic asset for companies. Being able to observe the internal dynamics inside a multinational environment made me realize that procurement is not purely an administrative function; it serves as a link between business strategy, supplier innovation, and corporate responsibility.

From a learning perspective, one of the most important insights was recognizing that procurement maturity depends not only on tools or procedures but on the mindset of the people. The best processes I have seen were driven by an open culture of cooperation. Compliance turned into conviction if and when employees knew why sustainability or digitalization mattered. This human dimension is sometimes underestimated in literature but plays a decisive role in how strategies actually materialize inside organizations.

Another important lesson has to do with balancing global standards with local flexibility. Working within the Italian branch taught me that adhering to global procurement policies is necessary but so is adapting to the peculiarities of local markets and suppliers. This resonates with the “Strategic Alignment and Governance” dimension in Chapter 2, where centralized frameworks need to coexist with decentralized agility. Firms that manage such a balance tend to handle risk more effectively and build stronger relationships with their suppliers.

Regarding digitalization, I noticed that technology would transform procurement only if people wanted to use it as a decision-support system rather than just a bureaucratic requirement. E-procurement tools simplified operations and provided visibility of data, but the value actually lay in category managers redesigning sourcing strategies based on these insights. This proved my belief that technology is not the change itself but an enabler toward a broader organizational evolution.

Sustainability was another important lesson learned. Until the internship, I mainly associated sustainable procurement with environmental criteria. During the internship, I saw how ESG metrics are embedded in supplier evaluation, and that sustainability means a lot more than environmental criteria: it can imply ethical sourcing, transparency, and respect for human rights. That connects to "Sustainable and Responsible Procurement" and "Measurement" dimensions of Chapter 2: tracking these indicators is not only a reporting exercise but a way of ensuring that procurement supports long-term value creation and risk mitigation.

The exposure to selection of suppliers and competitive tenders also taught me about the importance of fairness and accountability in business relationships. I learned that transparency and documentation are not bureaucratic burdens but safeguards that protect both sides. Well-structured governance processes — clear criteria, traceable decisions, and measurable KPIs — create trust within the organization and with external partners.

Another important learning outcome is the perception of procurement within the company. Quite often, the function was still perceived mainly as a cost center. However, the projects I supported showed that procurement could also be a source of innovation and driver of sustainability. This is one of the main managerial implications of my experience: companies should invest in communicating procurement's strategic role internally. Training programs,

cross-functional workshops, and early involvement in project design will elevate procurement from an operational executor to a value architect.

From a managerial point of view, the major implications of this experience can be summarized in four practical recommendations:

1. **Empower procurement** with decision-making authority: Strategic alignment requires that procurement not only advises but also decides, in particular on supplier selection and sustainability integration.
2. **Invest in a growing digital and analytical capability**: Data visibility is important, but managers should know how to read and act from data.
3. **Turn sustainability into partnership**: Instead of a filter, ESG compliance should serve as a foundation for long-term collaboration and innovation with suppliers.
4. **Measure what truly matters**: Performance dashboards should include predictive indicators and qualitative dimensions such as supplier innovation, cultural fit, and collaboration quality.

These are implications that resonate particularly with SMEs, where procurement functions are usually underdeveloped or fragmented. The models and practices witnessed during the internship-digital tools, ESG scorecards, and balanced KPIs-can serve as practical inspiration for Italian food sector SMEs. Even with scarce resources, adopting scaled versions of these approaches can drive substantial improvement in efficiency, resilience, and competitive differentiation. The internship experience, in retrospect, was not only a professional learning route but indeed a real laboratory where theory was found to meet practice. The contrast between the formal structures of a large multinational and the flexibility required in daily operations provided an invaluable lesson: procurement excellence is achieved when systems, data, and people are aligned toward a common

purpose. In summary, the experience confirmed that modern procurement is evolutionary, not static. The Seven Dimensions Framework described in Chapter 2 proved useful in interpreting what I saw day by day-a function in transition, from transactional efficiency to strategic impact. I will use this understanding when developing comparative analysis in the next chapter, where the practices of leading food companies are examined in order to identify how similar principles can be adapted in ways that enhance innovation and competitiveness in the agri-food sector.

5. Critical Analysis: Theory vs Practice

5.1 Connecting Theory and Practice: From Framework to Findings

The transition from the theoretical framework developed in Chapter 2 to the empirical evidence observed during the internship provided an opportunity to test the principles of modern procurement in how they work in a real corporate context. While the Seven Dimensions Framework has been instructive as a structured lens through which to interpret the evolution of procurement, the reality of daily operations paints a more complex, sometimes imperfect but deeply human picture of how organizations manage change.

The first and most visible link between theory and practice emerged in the area of digitalization. The procurement function of the company had already implemented advanced digital tools: automated workflows, supplier databases, and performance dashboards. These systems mirrored what the literature defines as Procurement 4.0, where technology becomes an enabler of transparency and efficiency (Handfield et al., 2020; Deloitte, 2023). Yet, what theory cannot catch is the uneven pace with which people embrace technology. Some immediately adopted the new tools and used them to rethink processes; others still preferred manual controls or email exchanges. It was this gap that confirmed digital transformation is as much a social process as it is technical.

The structure observed was indeed very close to the hybrid model described in Van Weele (2018) from a strategic alignment and governance perspective. Policies and KPIs were defined globally, while tactical sourcing decisions remained local. It strikes a balance that allows flexibility and accountability but not without friction. Sometimes, the local teams felt constrained by the global rules, and global managers perceived local adaptations as inconsistencies. One realized then that alignment is not a static condition but rather a

continuous negotiation between centralization and autonomy. The capability to manage that tension appears to be one of the real indicators of procurement maturity, rather than the formal existence of governance charts or policy manuals.

Sustainability also represented one of the most significant points of contact between theoretical expectations and practical reality. While supplier assessments, ESG scorecards, and due diligence procedures were all fully embedded in procurement routines, reflecting ISO 20400 principles and an increasing regulatory focus on responsible sourcing, sustainability had a dual nature: part compliance, part conviction. While this all worked well on paper, real engagement depended on people: managers who truly believed in ESG values often went beyond formal requirements and took the initiative with suppliers or suggested greener alternatives. This made me more aware of how personal motivation still plays a decisive role in the institutionalization of sustainability.

Innovation, by far and away, was the most difficult dimension to translate into daily practice. While the company supported pilot projects with suppliers, innovation tended to emerge more by opportunity than by structured intent. Only partially visible was the "Supplier-Enabled Innovation" logic described by such authors as Chesbrough (2003) and Luzzini et al. (2015). While procurement professionals were open to new ideas, they often did not have either the time or mandate to develop those beyond the early stage. This confirms one of the main findings of the literature — that the pursuit of innovation in procurement requires not only tools and openness but dedicated processes, incentives, and long-term partnerships.

Risk management similarly demonstrated a dissonance between theoretical soundness and pragmatic implementation: processes for supplier evaluation, financial screening and contingency planning were established, which corresponds to the prescriptions by ISO 31000. However, many such measures were taken after the fact, not to prevent things from

going wrong in the first place. This finding corroborates Teece-s 2007 statement about dynamic capabilities: true resilience is about the capability of the organization 'to sense and then to reconfigure' not merely to respond. In other words, the company had routines for resilience but not yet a mindset for it.

Performance measurement was another aspect where theoretical maturity was reflected, and which still had considerable scope for growth and development. In principle, the Balanced Procurement Scorecard did exist cost savings, indicators of supplier reliability, and sustainability were monitored on a regular basis. Yet, what was missing were predictive metrics-forward-looking indicators capable of signaling risks or opportunities well before they materialize. This underlies that measurement is about not just recording performance but shaping future decisions-a nuance that is often lost in practice.

Indeed, from the integrated perspective of the Seven Dimensions Framework, it became clear that the company had achieved substantial progress on digitalization, governance, and sustainability but struggled to make progress on innovation and predictive measurement. That uneven development is perfectly natural: organizations rarely evolve along all dimensions with equal speed. Each capability depends on its own enablers — leadership, resources, culture, and strategic vision which rarely simultaneously align. What I personally learned from this comparison is that theory provides clarity, but practice provides nuance. The frameworks in Chapter 2 helped me recognize patterns I might otherwise have missed, yet the internship reminded me that progress is often messy, relational, and iterative. Real procurement transformation involves less box-ticking and more about building trust, habits, and shared understanding among people operating in complex environments. The following table summarizes this alignment between theory and evidence by setting out how the seven dimensions of modern procurement manifested in practice during the internship experience:

Theoretical vs Observed Procurement Dimensions

Dimension	Theoretical Model (Chapter 2) (Chapter 2)	Observed Practice (Internship Case)
Risk Management	Proactive, predictive approach (ISO 31000, Teece 2007)	Structured but mostly reactive procedures, limited predicive tols
Innovotion & Supplier Collaboration	Systematic co-development and long-term partnerships (Chesbroug 2003)	Occasional pilot projects, limited formal governance for innovation
Digitalisation	Integrated data systems, AI-driven analytics (Deloitte 2023)	Strong digital tools in place but uneven user adoption
Sustainability	ESG embedded in procurement and supplier evaluation (ISO 20400)	Well-integrated ESG processes mixed engagement across managers
Strategic Alignment & Governance	Hybrid centrallzed-local governance shared KPIs	Effective governance but tensions between global and local priorities
Agility / Resilience	Flexible, learning-oriented supply network (Ivanov & Doigiui 2020)	Operational flexibility achieved Strategic learning still developing
Measurement	Balanced scorecard with forward-looking indicators (Bals et al. 2019)	Solid monitoring of KPIs few predictive or qualitative metrics

(Source: Author's elaboration based on internship findings)

This synthesis demonstrates that while the theoretical structure of modern procurement is comprehensive and coherent, its application remains a work in progress. The most advanced organizations are those that view procurement not as a system to be implemented, but as a capability to be continually cultivated.

In this sense, the gap between theory and practice is not a failure — it reflects organizational learning in action. Procurement, much like the companies it serves, evolves through experimentation, reflection, and the human capacity to adapt.

5.2 The Strategic Role of Modern Procurement in Driving Innovation and Competitiveness

All the previous analysis, combined with internship experience, confirmed that procurement, if managed in a strategic way, is much more than its traditional role of controlling costs. It becomes a core enabler of innovation, sustainability, and long-term competitiveness. Over the last decade, the notion of value in procurement has changed: organizations are now judged not only by what they save but by what they enable-the innovations they make possible, the partnerships they build, and the resilience they create across their supply networks.

This transformation reflects the strategic evolution discussed in Chapter 2, where procurement is perceived as a multidimensional capability, since it connects digitalization, governance, sustainability, and innovation within one framework. Evidence from the internship experience confirmed that, even in large, structured organizations, procurement maturity develops progressively across these dimensions, each contributing to competitiveness in different ways but complementarily.

At the heart of this transition is digitalization. Automated workflows, e-procurement systems, and analytics tools turn procurement into a data-driven function that can make faster, better, and more transparent decisions. Digital tools also act as a bridge between innovation and efficiency: by analyzing supplier performance, market trends, and risk indicators, companies are able to predict disruptions and seize new sourcing opportunities. The introduction of AI-based systems-from spend analytics to supplier risk scoring-represents the next frontier. Artificial intelligence can detect weak signals, suggest optimal sourcing combinations, and even simulate alternative supplier portfolios under different risk

scenarios. This does not only improve operational efficiency but also strengthens the company's competitive advantage by enabling proactive decision-making.

Sustainability and competitiveness are increasingly intertwined. Companies that integrate ESG criteria into procurement do not simply meet regulatory requirements; they build reputational capital and stakeholder trust, which in turn attract investment and talent. Moreover, sustainable procurement fosters innovation because it encourages suppliers to develop new solutions, such as recyclable materials, energy-efficient processes, or transparent traceability systems. In this perspective, sustainability is a driver of product differentiation and customer loyalty, rather than a cost of compliance. According to McKinsey research in 2024, companies with integrated sustainability procurement frameworks report higher long-term profitability and lower supply-chain volatility.

From an innovative perspective, procurement facilitates collaboration across ecosystems. According to Chesbrough (2003), open innovation needs the capability to look beyond organizational boundaries. Procurement departments are in a good position to play this role since they represent the natural interface between the company and its external partners. Supplier-enabled innovation and early involvement of suppliers have become means for firms to better draw upon external creativity and reduce their innovation cycle times. Thereby, this requires the right governance model that effectively balances openness with protection: shared KPIs, fair IP management, and transparent agreements about co-development.

Governance is a very important dimension in changing innovation from something sporadic to something systematic. In the absence of a well-structured governance model, innovation remains dependent on individuals and does not get embedded into the processes of an organization. The internship experience revealed that even well-established companies at

times struggled to translate strategic intent into operational routines. Procurement professionals were aware of the importance of innovation but were either constrained for time or lacked a mandate to engage suppliers beyond transactional goals. This observation fits well with Teece's theory of dynamic capabilities, 2007: an organization is said to have sustained competitive advantage if it is able to sense opportunities, seize them, and reconfigure resources correspondingly. Therefore, procurement needs to evolve from contract execution to ecosystem orchestration.

Artificial intelligence represents a convergence point of these strategic dimensions. When applied within procurement systems, it can support innovation through scanning technology databases and supplier networks for collaboration opportunities, enhance governance through automated risk assessment and compliance tracking, and reinforce sustainability by analyzing ESG performance at scale. In practical terms, AI extends procurement's reach and intelligence, enabling smaller teams to manage complex supply networks with precision and foresight.

The linkage of procurement with competitiveness also extends to how procurement contributes to agility and risk mitigation. Resilient supply chains are built not through redundancy alone but through visibility and adaptability, something quite possible for procurement to provide through digital systems and relationships with suppliers. Quick switching of suppliers, negotiation of flexible contracts, and transparency across tiers are all enablers of speedier responses to disruption. This responsiveness directly translates into competitive advantage in uncertain environments. On a broader level, the findings underline that procurement has become an integrator. It brings together disciplines that used to be separate: finance, sustainability, innovation, and operations. This integrative role is the procurement such a powerful but often underestimated driver of competitiveness.

Companies that succeed are those that recognize procurement as a source of strategic intelligence, not just operational efficiency. They treat their supplier base as an extension of their own innovation ecosystem, nurturing long-term partnerships instead of transactional exchanges. This trend bears important teachings for SMEs. While they cannot invest in either technology or financial resources, they could apply the same principles at an appropriate scale. Even basic digital tools-shared dashboards, online tender platforms-and structured collaboration mechanisms with suppliers can make a big difference in competitiveness. For Italian agri-food SMEs, incorporating sustainability and digital visibility into procurement might become a peculiar differentiator, merging tradition with the opportunities opened up by innovation. Modern procurement stands at the crossroads of innovation, governance, and sustainability. It is the silent architect of competitiveness, shaping outcomes not by direct production but by the influence it provides on how and with whom the organization creates value. The internship experience reinforced this understanding: procurement is not about buying better; it is about thinking strategically, acting collaboratively, and building systems that transform uncertainty into opportunity.

5.2

Figure 5.2 illustrates how the four main dimensions of modern procurement, *Digitalization, Governance, Sustainability,* and *Innovation*, intersect to create *Competitiveness* at the core. Each dimension reinforces the others:

- **Digitalization** provides data and analytical insight.
- **Governance** ensures strategic alignment and accountability.
- **Sustainability** integrates long-term value and stakeholder trust.
- **Innovation** drives continuous improvement and differentiation.

Together, they form a dynamic system where procurement acts as a strategic integrator, transforming operational efficiency into sustainable competitive advantage.

5.3 Managerial Implications and Lessons for SMEs in the Food Sector

In this thesis, results highlight how procurement, when approached through a modern and strategic lens, can fundamentally change the competitive potential of SMEs. This is very relevant to the Italian food sector, which represents the heart of the national economy, where tradition, quality, and authenticity face new global challenges related to sustainability, digitalization, and efficiency.

While large corporations have already begun making this transition, it is SMEs that truly represent the frontier of change, where innovation has to bend to meet constraints around scale, resources, and culture. The lessons identified from the case study and literature provide valuable theoretical insights and also some concrete managerial directions to tackle this transition.

Procurement as a Source of Strategic Intelligence

Procurement in small firms is very often limited to operational or administrative activity, such as ordering materials, comparing offers, and managing invoices. Yet, procurement's role in modern organizations is much broader; it acts as a sensor of change, a radar for external opportunities, and a translator between market signals and strategic choices.

It enables the identification of early trends in the price of raw materials, packaging innovations, or sustainability certifications demanded by buyers through the structured collection and analysis of data related to suppliers. In this way, procurement becomes an "antenna" for competitiveness, enabling even the local producer to anticipate changes in consumer expectations and regulatory frameworks. In practice, this translates into building a small, but structured, information base: supplier mapping, risk indicators, and market

dashboards that would provide, if consistently used, a better basis for strategic planning. The lesson here is that size does not determine adaptability; it is knowledge.

Digitalization as an Enabler of Transparency and Agility

Digitalization may be the most accessible and transformational lever available to SMEs. Cloud-based procurement software, collaborative spreadsheets, and AI dashboards suffice to simplify the operations of a company while keeping a low-cost outlay to increase transparency. My internship experience validated the notion that digital maturity hinges not so much on the sophistication of the tools but on the integration of tools into everyday activities of a routine. The impact of a well-designed Excel dashboard used on a regular basis is comparable to that of a more expensive platform. For SMEs, what counts is the assurance of consistency: the input of data, monitoring suppliers, and the internal circulation of information. Digital procurement reinforces traceability in the Italian food sector, which has fragmented and geo-dispersed supply chains. Retailers and consumers value traceability. simple digital systems that ensure the capture of compliant information from raw materials to packaging and through logistics to the fork greatly enhance brand credibility. AI and predictive analytics, even in their most elementary forms, allow SMEs to balance supply and demand, mitigate supplier risk, optimize procurement cycles, and shift procurement from a reactive function to a proactive strategic imperative.

Sustainability as a Core Competitiveness Driver

Sustainability's shift into a core economic driver is no longer up for question-especially within the context of the EU Green Deal and the Corporate Sustainability Due Diligence Directive (2024) and the focus on ESG integration within procurement for even the smallest of enterprises. Within the EU, Italian food sector enterprises and specifically smaller enterprises, enjoy a first mover position on sustainability. "Sustainability as a core economic

driver", means making self evident and communicably sector SMEs embedded with sustainability practices communicable. More specifically, self evident practices such as evaluating suppliers, establishing and maintaining long term supplier relationships and partnerships around sustainability, minimizing supplies, and fostering mutual trust and dependence. SMEs are increasingly recognizing the expanded market potential within the EU and the use of self-evident and intuitive sustainability practices to differentiate and position themselves. Specific practices such as minimizing energy use, using recyclable packing, establishing and maintaining mutually fair and supportive workplace relationships, form and maintain significative relationships and embedded partnerships around self-defined, communicable, and market valued sustainability practices. Sustainability is self-evident practice, eco-friendly procurement, partnerships and valued business to the supplier network and procurement partnerships, reinforcing mutually established business relationships.

Collaboration and Networks as Amplifiers of Scale

The downside of isolation is one of the main challenges for SMEs. Small firms almost never gain access to advanced technologies, training, or the global marketplace, and for most of them, the only action is to remain alone. However, for those SMEs, collective action tends to mitigate those boundaries. Small and medium enterprises gain knowledge, access and share costs when they join purchasing consortia, regional clusters, or innovation ecosystems. Small producers who negotiate and share suppliers through collaborative procurement platforms gain significant bargaining power and considerably lower transaction costs. Associations, including Confagricoltura, Coldiretti, and Federalimentare, are already taking steps to digitalize procurement and enhance sustainability reporting for small producers. These initiatives give SMEs the means to move more quickly on their digital and sustainable

transitions. Collaboration, or the lack of it, can increase the spread of innovation within a supply network. When a cooperative dairy with digital traceability systems implements them, wineries and bakers are encouraged to adopt the same systems. In this case, innovation is digital traceability, and knowledge is the willingness to adopt it willingly.

Governance and Human Capital as Enablers of Transformation

Even small organizations need to have some form of governance. Also, the most basic procurement processes should have responsibilities and accountabilities assigned to various members, clear and transparent approval mechanisms, and definable KPIs. Such governance structures mitigate inefficiencies, contain risks, and bolster accountability. Most importantly, governance fosters confidence. Trust and collaboration develop internally as decisions become transparent and rational, and externally, partners and stakeholders develop a sense of reliability. Human skills, however, remain the real transformative power. Whether digital or sustainability initiatives go beyond paperwork is mostly a matter of personal understanding and application of the concepts. Hence, in the case of SMEs, a more pertinent suggestion would be the introduction of targeted and applied sector-specific training for digital skills, sustainability, and negotiation. Support for such initiatives could come from regional universities, local chambers of commerce, and innovation hubs. As an internship experience taught one lesson, even the most sophisticated systems will fail if users do not perceive the value. Competence and purpose are what turns technology from a burden to a powerful ally.

Artificial Intelligence and Predictive Procurement.

For SMEs, there is the opportunity to skip stages of digital maturity as AI technologies come on the market. Predictive technologies can assist agents in planning procurement, spotting irregularities in the performance of suppliers, and simulating various cost, risk, and

sustainable sourcing scenarios. An example is an AI system that notifies a food processor customer when a certain energy cost threshold is reached or recommends alternative packaging suppliers with lower carbon footprints. AI enhances human judgment, providing visibility and foresight, even to smaller teams. Trust and simplicity are necessary to embrace AI. SMEs can build on small elements of analytics, chatbot-assisted purchasing, and demand forecasting to progressively gain data literacy. The future of procurement is hybrid: human intuition and digital intelligence harmonized to forecast.

Managerial Guidelines for SMEs in the Food Sector		
Area	**Key Action**	**Expected Benefit**
Strategic Mindset	Recognize procurement as a strategic function	Improved competitiveness and resilience
Susctialization	Introduce simple, accessible e-procurement tools	Efficiency, visibility, and time savings
Collaboration	Join consortia, associations, and digital platforms	Shared learning, cost reduction, scalability
Governance	Define processes, roles, and performance KPIs	Accountability, transparency, and control
Skills & Training	Strengthen digital, sustainability, and negociation skills	Higher agility and innovation capability
AI Integration	Use predictive analytics to support decisions	Risk anticipation and strategic insight

Figure 5.3 – Managerial Guidelines for SMEs in the Food Sector

This figure summarizes the key managerial actions that small and medium-sized enterprises (SMEs) in the food sector can adopt to modernize their procurement function. The seven

areas — Strategic Mindset, Digitalization, Sustainability, Collaboration, Governance, Skills & Training, and AI Integration — represent interconnected levers for innovation and competitiveness. Together, they outline a practical roadmap that helps SMEs align their traditional strengths with the digital, sustainable, and collaborative requirements of the modern economy.

6. Conclusions

6.1 Overview and Significance of the Study

This research went on to investigate how innovative procurement can become a strategic driver of competitiveness, especially in the food sector and the small and medium enterprises networks. Initially, procurement in the food industry seemed to be on the periphery, more as an administrative, low value, operational, and cost-related function. Yet, the more the research advanced, the more both the literature and the field revealed a different picture: procurement was and still is one of the most dynamic, multifaceted, and value-adding management areas. This study evolved from a simple but relevant question: How does procurement move from a supportive function to a strategic driver of a firm in an ever-changing, digital, and sustainable economy? As a result of the literature review, a theoretical model was established, and the Seven Dimensions Framework of Modern Procurement was born. This model attempts to condense procurement transformative advocacy literature spanning across numerous dimensions: risk management, innovation, digitization, sustainability, strategic fit, agility, and measurement. The practical lens for contextualizing and testing the constructions in the theory was the empirical component, which was developed through professional internship experience and desk research.

The results of this dual approach were clear: procurement is not a static process but an evolving system of interactions between people, technology, and strategy.
It can no longer be confined to the role of "buying" — it is the engine through which companies build resilience, connect innovation ecosystems, and turn sustainability into a competitive advantage.

6.2 Key Findings and Theoretical Contributions

It contributed to an advanced understanding of the strategic transformation of procurement by means of linking theoretical models with practical, real-life practice.

The Seven Dimensions Framework proved to be a useful conceptual tool to assess procurement maturity and identify strengths and gaps across different organizational contexts.

The main theoretical findings can be summarized as follows:

1. **Procurement as a Dynamic Capability:**

   Following the dynamic capabilities theory by Teece (2007), procurement emerged as the function that enables firms to sense, seize, and reconfigure the resources to adapt to change. It is not confined to efficiency but becomes a mechanism of continuous renewal.

2. **Integration of Digitalization and Sustainability:**

   The study indeed validated that digital tools and ESG principles are emerging drivers of competitiveness. Combined, they add to increased visibility and legitimacy: Digitalization allows traceability and analytics, while sustainability builds stakeholder trust and long-term resilience.

3. **Governance as a Bridge Between Strategy and Operations:**

   Procurement governance defines the way in which strategic intent is translated into action. This hybrid structure, centralized in policy but decentralized in execution, achieves a balance of efficiency and flexibility

4. **Measurement as Strategic Legitimacy:**

The shift from savings-based to multidimensional performance measurement reflects a change in paradigm: procurement value must be demonstrated not only financially but in terms of innovation, risk mitigation, and sustainability.

5. **Human and Cultural Factors:**

   Perhaps the most important insight concerns people. The internship showed clearly that progress in procurement depends not just on technology or structure but on mindset, collaboration, and organizational culture. Digital tools can simplify procedures, but only empowered and skilled professionals can transform data into strategy.

In theoretical terms, this research underlined a view of procurement as an integrative capability; that is, procurement connects internal functions, external partners, and strategic goals into a coherent system of value creation. This conceptualization contributes to closing the gap between Resource-Based View and Sustainability-Oriented Innovation theories, demonstrating that procurement is at the crossroads of both, as it manages resources and relationships for creating sustainable advantages.

6.3 Managerial Implications

Managerially, these results are relevant both in the short and the long run.

For large organizations, the findings reinforce that procurement needs to be aligned with corporate strategy and participate at the topmost level in decision-making. Procurement should be part of strategic committees and innovation planning, not just operation discussion.

Consequences for SMEs, particularly those in the food sector, are even more imperative. The study identified six major managerial directions:

1. **Adopt a strategic perspective:** Focus on procurement as a lever of innovation, not as merely a cost-control function.
2. **Digitalize step by step:** Begin with easy means to enhance data visibility, manage your suppliers, and smoothen processes.
3. **Be sustainable:** To increase market competitiveness, apply ESG principles in the selection and communication with suppliers.
4. **Collaborate and network**: Join clusters, associations, and digital ecosystems to overcome limitations such as scale.
5. **Strengthen governance:** Clearly define the roles, decision rules, and KPIs to enhance transparency and accountability.
6. **Invest in human skills and AI literacy**: enabling procurement professionals to interpret data, manage sustainability metrics, and make responsible use of AI tools.

The broader implication is that procurement can democratize innovation.

Even small firms, once they structure their purchasing processes and use data intelligently, are able to achieve levels of strategic maturity previously only possible for large corporations.

This trend could redefine competitiveness in the Italian food system by promoting artisanal quality with digital precision and sustainable governance. Procurement thus becomes not just a function but a philosophy of management values that place a premium on transparency, collaboration, and continuous learning along the journey toward long-term success.

6.4 Limitations and Directions for Future Research

As with any qualitative and exploratory study, some limitations must be recognized.

First, the empirical data was based on one single internship experience, supported by secondary sources, without direct interviews with multiple stakeholders. This limits the depth of triangulation and the ability to generalize results statistically.

The analysis was mainly focused on procurement in large and structured companies; further studies could directly investigate SMEs through field research or sectoral surveys.

Third, the technological perspective, especially the role of Artificial Intelligence, will need deeper empirical exploration. Whereas the study identified AI as a big enabler, its actual adoption and ethical implications remain open research areas.

Research in this area could therefore evolve along three main directions. First, future studies could perform **multi-case comparative analyses across different industries** to empirically test and refine the proposed Seven Dimensions Framework, evaluating its applicability in diverse organizational and market contexts. Second, there is growing relevance in exploring **the nexus between Artificial Intelligence and procurement**, with a focus on how predictive analytics, decision automation, and ethical considerations are reshaping procurement strategies and governance models. Finally, further research could investigate **the cultural transformation required to transition from traditional to strategic procurement**, particularly within **family-owned SMEs**, where organizational values, leadership style, and resistance to change often play a decisive role in the adoption of modern procurement practices.

Such a study can led to a rich and variedly informed view of how procurement contributes to resilience and innovation in various organizational settings.

6.5 Final Reflections

As this research comes to an end, it becomes evident that procurement — a discipline once considered marginal or purely transactional — now stands at the center of one of the most profound transformations in modern business. What began as an analysis of procedures and performance indicators developed into a reflection on how organizations learn, collaborate, and create value in a world that is in constant change.

From this journey, the perception of procurement evolved from being a means of cost-saving to being a strategic compass: a function serving not only to support the operation but also to lead corporate choices toward resilience, sustainability, and innovation. Such evolution mirrors the broader transformation of contemporary management, which no longer judges companies merely by what they produce but by how they produce it, with whom they collaborate, and why.

At a personal level, the internship experience was a chance to perceive from a privileged point of view how theory meets practice and abstract models turn into vivid real life. The daily rhythm of tenders, supplier negotiations, and digital dashboards showed the real meaning of concepts such as alignment, risk management, and integration of sustainability. I became aware that behind every procurement process, there is continuous negotiation between efficiency and ethics, short-term goals and long-term vision, technology and human relationships.

This reflection also confirmed that procurement is, above all, human discipline: tools and data are needed, but people will always be the real driving force for change. It will be their skills in interpreting the numbers, communicating across departments, and understanding and creating trust with suppliers that determine whether any digital or sustainable transformation will be successfully realized. In the end, procurement is not about machines replacing decisions; it is about using technology to amplify human judgment and foresight.

At the same time, this study showed that in the future, competitiveness would be based on the ability to integrate multiple dimensions-economic, social, environmental, and digital-into one coherent vision. Of all functions, procurement best embodies this integration: it connects the tangible with the intangible, from contract to material, from cost to relationship, reputation, and values. It is, first and foremost, a management philosophy-a way of orchestrating interdependence within complex ecosystems.

This is a vision that particularly resonates with Italian SMEs from the food sector, for whom the traditional strengths of craftsmanship, territorial identity, quality, and authenticity will be much stronger if complemented by structured and data-driven procurement practices. These companies will have to merge tradition with technology, intuition with analytics, and ethics with efficiency in their redefinition of what "Made in Italy" means for the digital age. The competitive advantage of the future will not be in producing more but in producing better: sustainably, transparently, and intelligently.

In this direction, procurement could represent a bridge between generations and worlds, being for the older entrepreneurs a tool of operational stabilization and professionalization, and for younger managers, an entry point toward digital innovation and global networks. This can help, through intergenerational dialogue and shared decision-making, to keep alive the relational and community-based spirit that characterizes Italian SMEs, while introducing them to global standards of governance and sustainability.

Looking ahead, the intersection between Artificial Intelligence and procurement is likely to redefine the boundaries of what organizations can anticipate and control. AI-driven procurement will automate not just mundane tasks but will help firms understand complex supply dynamics, forecast disruptions, and design more sustainable ecosystems. Yet, this

technological evolution must remain anchored in human values — transparency, fairness, and purpose. As the European AI Act reminds us, innovation must always be human-centric.

The reflections that emerged from this thesis thus go beyond procurement itself. They point toward a broader vision of how organizations-particularly SMEs-can evolve in an era of uncertainty and opportunity. Resilience, collaboration, and continuous learning are not optional attributes; they are the new foundations of competitiveness. Procurement, by coordinating networks, managing information, and balancing multiple objectives, provides the operational and cultural framework to realize this transformation.

This work, in turn, underlines the fact that not all innovation needs to start from radical change; sometimes it grows from discipline and awareness. Learning to measure, to collaborate, to document, to plan-all are forms of innovation when they occur in environments hitherto dependent upon informal practices. The small steps — the introduction of a digital dashboard, the creation of a supplier code of ethics, the inclusion of ESG criteria — can cumulatively lead to systemic improvement.

From a broader social point of view, procurement can also generate an opportunity to contribute to a more sustainable and inclusive economy. It enables responsible sourcing, thereby supporting local suppliers and encouraging fair practices, which have a direct impact on communities and the environment. Each responsible decision made has far-reaching ripples, well beyond company walls, into ecosystems composed of farmers, transporters, artisans, and consumers who together keep the Italian food identity alive.

Looking back on this journey, the thing that really stands out is an awareness that has grown: namely, that strategy and ethics are no longer separate spheres. In fact, the future of competitiveness lies precisely at their intersection-where innovation serves purpose and technology reinforces trust. Procurement sits at this very intersection, being both analytical

and relational, technical and moral in nature. It is the discipline which converts corporate intent into tangible, measurable, responsible action.

This thesis concludes that procurement is not only a managerial function but also a metaphor for the development of modern organizations-a microcosm in which challenges related to globalization, sustainability, and digitalization come together. Managing procurement means understanding interdependence-between cost and value, efficiency and ethics, and humans and machines. To me, this research was not only a study of a function but a reflection on the nature of management in modern times. It showed how even the most technical areas of business can become spaces of creativity, responsibility, and learning. Procurement, in its modern form, teaches us that true innovation lies not in doing more but in doing better-with intention, coherence, and care.

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