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- Humanistic leadership and SMEs
- CRM adoption in SMEs
- SMEs in B2B lead generation
- Managing complexity in SMEs
- Gender equality standards and first adopters
- Start-up pre-money valuation

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EDITORIAL
WHY UNLISTED SMES ARE THE BEST ENVIRONMENT FOR HUMANISTIC LEADERS AND FOR APPLYING THE STAKEHOLDER CAPITALISM PARADIGM

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Article info

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Abstract

Purpose. *The aim of this editorial is to reflect on "What are the peculiarities of unlisted SMEs that make this reality the best context for applying stakeholder capitalism by leaders who put people at the centre of decision-making?"*
Design/methodology/approach. *The contribution adopts a conceptual approach, drawing on studies on humanistic leadership and humane entrepreneurship and contextualizing them within unlisted small and medium-sized enterprises (SMEs).*
Findings. *The reflections developed highlight how SMEs, especially unlisted, represent the most suitable organizational context for implementing stakeholder capitalism through the actions of small entrepreneurs, who often act as authentic humanistic leaders.*
Practical and social implications. *The paper shows how socially responsible strategies attentive to the well-being of all stakeholders and to environmental protection can be learned from the daily and often silent behaviour of many small entrepreneurs. Their personal goals are not exclusively economic or financial but are also linked to aspirations for success and social recognition, which often represent the most meaningful reward for entrepreneurial activity.*
Originality of the study. *The originality of this study lies in highlighting how the transition from the paradigm of shareholder capitalism toward stakeholder capitalism is hindered by the growing financialization of the economy, dominated by financial capitalism. For this reason, it is necessary to look at the world of unlisted SMEs as ideal contexts capable of implementing the principles of humanistic leadership by placing people, society, and local territories at the centre of business processes and by enhancing the communitarian conception of the firm.*

1. Humanistic Management: Beyond the Economicistic Paradigm of Scientific Management

Previous contributions (Pencarelli et al., 2023) have emphasized that the role of humanistic leadership is crucial in promoting the transition from shareholder capitalism to stakeholder capitalism. While in shareholder capitalism the primary objective pursued by management is the maximization of profits and the market value of firms, stakeholder capitalism aims to create shared value and generate well-being for all key stakeholders—not only shareholders—while respecting environmental ecosystems.

This shift in corporate governance can only originate from leaders, whether they are entrepreneurial owners or professional managers. These are the individuals responsible for guiding organizations and defining—based on their values—the purpose, vision, mission, and strategic objectives that shape corporate identity and drive strategic action.

Such leaders carry out their organizational activity mainly inspired by the paradigm of humanistic management rather than the traditional approach of scientific management. While the latter is based on efficiency-oriented logics relying on rewards and punishments and is typically associated with transactional leadership, humanistic management is grounded in ethical values that place human beings at the center of organizational decisions and behaviours, inspiring transformational leaders.

Humanistic leadership represents an approach to business management that seeks to transform and innovate traditional ways of conceiving the firm, guiding organizations toward responsible behaviour toward stakeholders, society, and the environment.

The theoretical construct of humanistic management is based on the imperative to pay attention to human dignity and the well-being of individuals both inside and outside the organization. According to Melé (2016) and Gotsis and Grimani (2026), humanistic management involves practices that consider:

- the totality of the human person;
- respect for human dignity and the calling of every individual to flourish;
- the need to serve others and the broader community;
- the centrality of the common good, which implies acting according to justice;
- benevolence and civic friendship;
- human openness to transcendence;
- the affirmation of a strong sense of stewardship and sustainability.

From a humanistic perspective, employees, customers, and other stakeholders are considered persons rather than mere resources to be used ac-

cording to the flexibility and cost-efficiency requirements of a profit-maximizing capitalist system.

This form of capitalism often ignores workers' dignity and well-being, employing them in production processes without adequate consideration for their humanity. This phenomenon can also be observed in the emerging platform economy, where forms of digital Taylorism and gig economy arrangements are spreading, involving increasing numbers of "working poor."

Moreover, capitalism based solely on economic principles fails to recognize the human needs behind suppliers and local communities. Instead, these actors are treated as components of the value chain to which efficiency-oriented logics are applied to maximize profits and market value.

Human-centred organizations (Townsend and Romme, 2024) pursue the common good by adopting organizational structures based on autonomous work groups that promote participation, collaboration, respect, innovation, and learning. The humanistic management perspective represents a significant evolution in managerial thought, in which the integration of human values becomes a pillar of corporate strategy.

Management still pursues profitability and economic efficiency, but for human purposes, focusing on the growth and well-being of individuals (Melé, 2016). According to this perspective, the firm is not merely a set of contracts and conflicting interests but rather a "community of persons" characterized by diverse identities in terms of gender, age, ethnicity, and religion (Flores et al., 2023), representing the totality of the human being.

Flores et al. (2023) also emphasize how humanistic management places human beings at the centre of organizations, overcoming the Tayloristic vision of business management and scientific management, which view people as mere components of the production system. This perspective contrasts with McGregor's Theory X, according to which individuals are lazy and demotivated and therefore require incentives and punishments to achieve results.

Humanistic management instead aligns with McGregor's Theory Y, according to which employees are capable, motivated, and willing to learn and solve problems. Consequently, the workplace should provide employees with opportunities to grow and improve, connect with colleagues, be respected for their experiences and perspectives, and be valued for their contributions.

Furthermore, human-centered organizations pay close attention to the real needs of society, particularly those of consumers and users of goods and services, identifying the common good as a key value of their strategic purpose to contribute to human prosperity.

According to Melé (2003), humanistic management is essentially "a managerial approach that emphasizes the human condition and is oriented toward the development of human virtues in all their forms and dimen-

sions." He emphasizes that individuals who choose to work in a firm conceived as a community pursue three objectives: obtaining compensation (monetary or non-monetary), finding satisfaction in their work within the organization, and experiencing the firm as an entity with which they can identify and toward which they commit themselves in order to achieve a common purpose. This perspective integrates individual interests with organizational and social objectives.

Laszlo (2019) associates humanistic management with "serving the common good." This means focusing not only on human beings but also on the environment and all forms of life on Earth, avoiding a purely anthropocentric perspective. Humanistic management places human dignity at the centre to prevent exploitation and promote social prosperity while also safeguarding natural capital.

This approach implies considering employees and other stakeholders as whole individuals with emotional, psychological, and social dimensions. It also means recognizing that behind every economic transaction there are individuals with emotions, needs, and aspirations, going beyond the mere exchange of goods for money.

By adopting a humanistic management perspective, companies can promote a more harmonious and collaborative work environment in which employee well-being and the quality of interpersonal relationships become fundamental drivers of economic success (Pirson et al., 2019).

Ultimately, humanistic management goes beyond the traditional economic paradigm based on the conception of Homo Economicus seeking utility maximization, where organizations aim to maximize shareholder value by pursuing competitive advantage through inside-out approaches. Instead, humanistic management embraces the perspective of Homo Sapiens, seeking to pursue the various dimensions of human dignity while balancing the interests of all stakeholders through the search for collaborative advantage and through internal cultural and value-driven innovation rather than external pressures such as the United Nations Sustainable Development Goals (Pirson,2023).

2. Humanistic Leadership for Orienting Corporate Strategies Toward Stakeholder Capitalism

Leadership is a widely studied concept, although there is still limited consensus among scholars on what leadership exactly is (Pencarelli, 2025). In this contribution, leadership is understood as a managerial activity aimed at guiding people toward the achievement of organizational objectives. It is a crucial component of managerial work, in which leaders' deci-

sions should orient firms both to do things well and to do the right things. For this reason, leadership is a pervasive activity within organizations and involves all those who manage groups of people—whether top managers or middle managers—as well as owners, board members, chief executive officers, and founding entrepreneurs.

The leadership function may be performed by individuals who hold formal authority, but it can also be enacted by individuals without formal authority (informal leadership) who are nevertheless recognized as such by group members (followers). Yet, how can humanistic leadership be characterized? What does it mean in practice to be a humanistic leader?

In very concise terms, humanistic leadership can be defined as a way of exercising leadership inspired by the paradigm of humanistic management, and it is particularly suitable for supporting the transition toward stakeholder capitalism. It seeks to pursue stakeholders' long-term well-being by paying attention not only to profits but also to people and the planet. This form of leadership goes beyond a purely transactional approach based on managing people through reward–punishment bargaining schemes, embracing instead transformational and charismatic leadership.

In this perspective, charisma is exercised through positive behaviours and explicitly rejects the "dark side" of charisma—that is, possible "non-humanistic" deviations such as the deification of the leader's role, the neglect of moral principles in decision-making, or the treatment of subordinates as passive subjects to be inspired and motivated. Transformational leadership that embraces humanistic values conveys positive values of responsibility toward stakeholders, respects human dignity, promotes people's well-being, and safeguards the planet. Humanistic leadership seeks to guarantee the pillars of human dignity for workers and aims to build communities that foster self-realization and well-being for organizational members, as well as social prosperity and progress.

In short, while transactional leadership focuses on the efficient achievement of objectives—often with limited attention to people or to ethical and moral conduct—charismatic, transformational, and humanistic leadership is anchored in solid moral values and serves as a source of inspiration for employees, stimulating them intellectually and engaging them emotionally in the pursuit of organizational goals.

This type of leadership can be found among founders and entrepreneurial managers of small and medium-sized enterprises, particularly when they operate according to the principles of Humane Entrepreneurship (Parente et al., 2021; Vesci et al., 2023).

Humanistic leadership manifests itself through responsible actions, and a good leader stands out by focusing on human well-being and safeguarding human dignity. Humanistic leadership enables individuals to autonomously discover the reasons for embracing organizational goals by

actively participating in decision-making processes and finding meaning in their work aligned with organizational objectives. This mitigates potential processes of work alienation. In this approach, the human being is not a means but an end, and performance is assessed based on its impact on people, since "man is the measure of all things" (Aktouf & Holford, 2009).

Humanistic leadership not only addresses internal organizational challenges but also aligns with broader societal and environmental goals, offering a path toward a more ethical, sustainable, and inclusive future for businesses and their stakeholders. Moreover, humanistic leadership is not only open to collaboration within the firm but also fosters inter-organizational cooperation: it builds and maintains networks, acting as an enabler and facilitator of collaborative entrepreneurship within trust-based networks committed to long-term goals (Rocha & Miles, 2009).

From a theoretical standpoint, humanistic leadership is a construct that incorporates—albeit not yet in a sufficiently structured manner—contemporary leadership approaches in which principles, service orientation, and ethical, spiritual, and authentic dimensions play a significant role. Among these approaches, the following are noteworthy: servant leadership, authentic leadership, ethical leadership, and emotional leadership.

Servant leadership implies that the leader is a "servant" whose primary desire is to serve rather than to command. Servant leadership is distinguished by its focus on ethics, virtues, and morality: the leader adopts a style and a philosophy of life motivated by the desire to serve, create value for the community, and promote others' growth rather than by the pursuit of power or material gains. Service leadership is a process that satisfies the leader's personal needs while also considering the needs of others and of the systems in which they operate (groups, organizations, communities, society), generating involvement and well-being among subordinates (Shek et al., 2023). Jordi (2010, p. 202) strongly expresses this idea by arguing that in the business world, "a leader who does not serve employees, customers, shareholders, and society is not professionally competent."

Authentic leadership is a construct that aligns well with transformational and humanistic leadership and is associated with what is referred to as "neo-charismatic leadership." This approach is based on authentic leader–follower relationships, fostering open and trust-based interactions, followers' identification with the leader, and recognition of the leader's integrity. The leader develops behaviours characterized by relational transparency and, as far as possible, impartiality. They demonstrate greater self-awareness and are guided by deeply internalized moral principles that motivate them to do the right thing. Authentic leaders are consistent with their own values, which they recognize alongside organizational values, enabling them to adopt a holistic leadership approach that reconciles personal, professional, family, and social dimensions (Friedman, 2025).

Ethical leadership is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (Brown & Treviño, 2006).

In summary, while ethical leadership focuses on followers' adherence to normative standards, authentic leadership emphasizes the leader's consistency with personal values shared with followers, and servant leadership prioritizes the well-being of multiple stakeholders by supporting followers and facilitating their personal growth.

Emotional leadership contributes to defining the characteristics of a humanistic leader because behaviours are guided by high emotional intelligence, which implies strong personal and social competencies (Goleman et al., 2013). These competencies enable leaders to understand and manage themselves as well as others through heightened social and organizational awareness. Leaders who master social skills and relationship management create trustful environments, foster positive emotions, and align teams to pursue common goals while effectively addressing challenges, conflicts, and evolving situations. Such leaders are described as resonant leaders, capable of channelling emotions positively, generating empathy, and spreading optimism and good mood, thus acting as emotional "magnets" within organizations. They operate through emotional intelligence by promoting positive moods, supportive work environments, and interpersonal harmony; they are "in tune with their collaborators, striking the right emotional chords and bringing individuals onto the same wavelength."

Overall, it is evident that various theoretical streams contribute to delineating the characteristics of humanistic leaders, converging on the idea that they place human beings at the centre of organizational decisions and behaviours. For this reason, the humanistic perspective is the one that most strongly directs leaders' behaviour toward the creation of shared value for stakeholders rather than toward the mere maximization of shareholder value. Humanistic leaders are ethically better positioned to assume environmental and social responsibilities—besides economic ones—thus responding to the ethical and environmental challenges of our time, dominated by financial and technological capitalism.

3. Financial Capitalism as an Obstacle for Leaders in Implementing an Authentic Stakeholder Capitalism Approach

At this point, it is necessary to question how feasible the transition from shareholder capitalism is—privileging profit generation to maximize Total Shareholder Return (composed of dividends and increases in share market value)—to stakeholder capitalism, aimed at creating shared value.

This question is necessary because, despite a substantial stream of man-

agement literature and practices inspired by the principles of the 2019 Business Roundtable statement (Harrison et al., 2020) calling for a new model of capitalism and a new corporate purpose, we are currently witnessing increasing financialization of the economy and the dominance of financial capitalism. Moreover, some authors argue (Paine, 2024; Coda, 2025) that the journey toward stakeholderism is still long and resembles more a dream than a reality. This is because the concept of stakeholder capitalism is not yet fully consolidated at the theoretical level and, above all, it remains unclear how it can be implemented in legal settings and capital markets where shareholders' rights are protected and privileged in the buying and selling of shares, in the election of directors, and in voting on major corporate decisions. Additionally, stakeholder-oriented governance models often fail to specify clearly enough the performance objectives that managers must achieve to balance stakeholders' expectations and conflicting interests within the compensation–contribution exchange.

Financial capitalism is first characterized by the increasing international openness of financial markets, resulting in greater circulation and mobility of capital across countries (financial globalization). This phenomenon is closely connected to the growing institutionalization of global savings, whereby the management of financial resources is increasingly entrusted by savers to institutional investors, notably investment banks, mutual funds, and pension funds. Delegation to these actors implies that savers expect, on average, higher returns from the capital entrusted to them than they would be able to obtain on their own. Moreover, it entails that managers of institutional investors sit on the boards of directors of major publicly listed firms.

Ownership of the most important companies worldwide is progressively shifting into the hands of major investment funds such as BlackRock, Vanguard, Fidelity, State Street, and Capital Group. To meet clients' return expectations, institutional investors push investee firms toward behaviours aimed at optimizing savers' Total Shareholder Value. Inevitably, these behaviours are oriented toward profit maximization and growth in firms' market value, prioritizing shareholders' exclusive interests and generating significant inequalities in the distribution of wealth between shareholder and non-shareholder stakeholders.

The financial wealth and economic power of these funds have become so large that it can exceed the wealth of entire countries, thereby threatening democratic stability itself. In other words, the dominance of institutional investors on corporate boards—especially in listed firms—hinders the transition toward stakeholder capitalism, making stakeholderism difficult to realize and encouraging corporate behaviours oriented toward short-termism rather than long-term objectives.

Financial capitalism entails an intensification of the process of financial-

ization of the economy, society, and household life, leading to the increasing importance of financial markets and financial institutions. The share of financial profits in GDP and the number of daily transactions of a purely financial nature—predominantly speculative—continue to grow. In addition, operations involving the creation of money "out of nothing" expand dramatically through the invention of new financial instruments such as "empty" or "naked" derivatives, that is, derivatives without underlying exchanges of goods and services.

The phenomenon of financialization refers to the hegemony of financial culture over industrial culture and implies, among other things, the rise of finance as a distinct business within firms, particularly large corporations. Finance as an autonomous business represents both a way to manage financial resources without resorting to capital markets and, above all, a way to generate profits through efficient management of available liquidity by leveraging the positive spread between return and cost of capital—returns that can be achieved in a context of lower profitability and higher risk in operating activities.

In this way, firms intensify the financialization of management by increasing the weight of financial assets within total invested capital and by treating financial investments as alternatives to industrial investments based on the differential between returns and costs. Moreover, firms embed shareholder-value maximization logics into key corporate decisions, carefully managing the risk–return trade-off of investments and encouraging financial executives to increase the use of instruments such as derivatives, futures, and hedge funds.

The financialization of the economy is an expression of financial capitalism and of shareholder-oriented governance models, which certainly do not facilitate the transition toward approaches focused on stakeholders' well-being and on purpose-driven strategies aimed at the common good (Argandoña, 1998).

The common good of the firm refers to the "fulfilment of the firm's purposes as such: that is, creating conditions that enable its members (i.e., all those who are part of the firm) to achieve personal objectives. This common good is a good by right: it is the firm's objective and, as such, can be distinguished from the objectives of the firm's members. (…) Whatever their specific interests, all must contribute to the firm's objectives, that is, to its common good, which consists in producing goods and services efficiently (thereby creating wealth) and sustainably in order to guarantee conditions under which each participant receives from the firm what they can reasonably expect" (Argandoña, 1998).

Each internal stakeholder has the duty to contribute—through their individual input of factors (capital and labour)—to achieving the firm's purpose oriented toward the common good. The firm's common good also

extends beyond organizational boundaries, potentially involving consumers, trade unions, suppliers, local communities, and the wider set of stakeholders considered in an expanded view, thus nurturing social relationships that entail rights and duties for both the firm and the actors involved.

Creating value for the common good from the perspective of the firm's responsibility toward stakeholders (Company Stakeholder Responsibility, CSR) means integrating ethics into business, overcoming the paradigm of Corporate Social Responsibility , which often treats business as separate from ethics and as a tool for social legitimation toward stakeholders whose expectations must be considered but not necessarily incorporated into strategic purposes.

Because firms operating in financial markets and listed companies are compelled to pay close attention to shareholders' return expectations, they struggle to develop behaviours authentically oriented toward the common good and toward satisfying stakeholders other than majority shareholders, even when they adopt management processes inspired by ESG (Environment, Social, Governance) principles. ESG adoption may mitigate exclusive attention to shareholders' interests, but it is unlikely to fully prevent the supremacy of Total Shareholder Value in strategic decision-making.

4. Are Unlisted SMEs the Privileged Context for Applying Humanistic Principles Aimed at Creating Shared Value with Stakeholders?

Based on the arguments developed in the previous section, it can be argued that the firms that can most fully embody the principles of stakeholderism are unlisted companies, as they are not subject—or are in any case less subordinated—to the performance logics of financial markets. Firm size may also play a decisive role: while large corporations must reconcile the often-divergent interests of a wide network of global stakeholders, SMEs manage a much narrower and more familiar stakeholder network.

Moreover, smaller firms are typically led by the founding entrepreneur or by a small circle of family members, so that business objectives are strongly intertwined with the entrepreneur's and the family's personal goals. These objectives are not only economic and related to returns on capital, but also connected to status, power, and social prestige within the local community. Small entrepreneurs are highly sensitive to the judgment of the social community in which they operate and often seek esteem and admiration from the wider community and even from their competitors within the business environment. Social success and personal reputation thus become a key form of "remuneration" for SME leaders, due to the strong identification between entrepreneur and firm—an identification that is far less common among leaders of large corporations.

Managers in large firms are often not known by employees, nor do they know them, due to distant and depersonalized relationships based on anonymity. For this reason, as well, managers of large firms—especially multinationals—being less involved in the fate of local communities, may more frequently adopt socially and environmentally "irresponsible" behaviours, subordinating strategic decisions to purely economic and amoral considerations, if not even immoral ones (Carroll, 2000).

By contrast, the predominance of personal goals among SME leaders encourages small entrepreneurs to pay close attention to the needs of local communities, starting with employees—often personally known—toward whom they may adopt policies that respect human dignity and enhance individual potential. Attention to local communities is reflected in the strong territorial embeddedness of firms' location decisions, which encourages entrepreneurs to keep production sites in their place of birth and residence, avoiding international decentralization and offshoring even when such choices could be more convenient from an exclusively economic and financial perspective.

SMEs tend to operate within value systems dominated by short supply chains, developing collaborative networks with nearby suppliers. As occurs in many industrial districts, district-based SMEs act and cooperate based on high mutual trust and are bound by a strong sense of belonging and identity linked to territorial values and culture. This condition, together with chronic shortages of financial and human resources, leads SMEs to view "acting locally" as a strength rather than a weakness, renouncing long supply chains populated by actors characterized by cultures different from those of their reference community, where building and maintaining trust-based relationships is far more complex.

Attention to the territory is also evident in entrepreneurial decisions to provide financial support to various local stakeholders—such as sports clubs, charitable institutions, schools, hospitals, and similar organizations—from which entrepreneurs expect social recognition. In other words, small entrepreneurs often love their firm and the territory in which they operate; consequently, SMEs may embody the principles of stakeholder capitalism more genuinely and authentically, acting as authoritative protagonists—though not always consciously.

SMEs are frequently contexts in which socially responsible strategies attentive to people and the environment are implemented "silently," because entrepreneurs share personal values and objectives with cultural and social values widespread in their home territories (Del Baldo, 2010). A key determinant of socially responsible behaviour is the possession of a high stock of social capital, understood as the connections among individuals, social networks, and norms of reciprocity and trust that small entrepreneurs can leverage through the cumulative effects of this valuable intan-

gible resource, rooted primarily in civic communities rather than merely business communities (Russo & Perrini, 2010).

Operating in contexts characterized by high social capital and trust, entrepreneurs can develop close collaborative relationships with employees, suppliers, and even competitors, with whom mutual support relationships may also emerge, consistently with stakeholder theory and the principles of economic, social, and environmental sustainability.

These are predominantly implicit strategies, often not communicated through non-financial reporting tools due to SMEs' reluctance to communicate socially responsible strategies. This reluctance is driven by limited financial resources, weak dependence on financial markets and their disclosure requirements, and close embeddedness within the economic, political, and social environment, which makes the explicit disclosure of such strategies less necessary (Looser & Wehrmeyer, 2015).

5. Small Entrepreneurs as Humanistic Leaders: Humane Entrepreneurship and SMEs

Overall, unlisted SMEs are firms that, in practice, pursue the principles of humanistic management, as they are guided by authentic humanistic leaders—namely entrepreneurs—capable of creating a positive organizational climate, which is the first prerequisite for developing good leader–employee relationships and for generating trust and organizational harmony. In these human-centered organizational settings, employees feel that their efforts are appreciated not only in terms of results achieved but also in terms of soft performance (Talim, 2024), such as ideas, morale, commitment, and motivation, in full respect of human dignity.

Studies on humane entrepreneurship (Parente et al., 2018; dos Santos et al., 2026) draw on leadership perspectives recalled in Section 2 (particularly servant leadership and transformational leadership theories) as well as on strategic human resource management, emphasizing practices that promote equity, continuous development, and the recognition of human uniqueness as essential elements for organizational sustainability.

The concept of humane entrepreneurship emerges from two approaches. The first is based on Humane Resource Orientation, which seeks to integrate leadership, entrepreneurship, and human resource management to foster employee well-being, equity, empathy, and training within organizations oriented toward humanization and sustainability. The second approach is based on Entrepreneurial Strategic Posture, defined as the result of Entrepreneurial Orientation, Sustainability Orientation, and Humane Resource Orientation—three dimensions that guide entrepreneurial actions in placing people, society, and the environment at the centre of corpo-

rate strategies, in line with a purpose-driven business perspective (Cucino et al., 2025).

Recent empirical studies investigating organizational contexts across different countries and sectors where humane entrepreneurship is most applied have shown that the SME domain represents the ideal setting for its implementation, although communication modes may vary depending on firm size (implicit and informal in smaller firms; more formalized in larger ones) (Vesci et al., 2023; Bjelic et al., 2024; Talim, 2024). Evidence also suggests that SMEs practicing humane entrepreneurship achieve superior non-financial performance (Bjelic et al., 2025), including higher employee involvement and satisfaction as well as stronger competitive and innovation capabilities.

An entrepreneurial orientation grounded in humanistic principles strengthens and makes organizational culture more resilient and may also foster improved economic and financial results, as firms become more capable of pursuing sustainable growth and a durable, defensible competitive advantage. These results are not constrained by the rigid return expectations typically found in listed companies, whose conduct is subordinated to stock market performance. Rather, they embody the principles of shared value, recognizing the contribution of all primary stakeholders and ensuring fair compensation, while respecting the ecosystem constraints of natural capital in the environment in which the firm operates.

For these reasons, unlisted SMEs can be considered the most favourable context for implementing stakeholder capitalism through socially responsible strategies guided by humanistic entrepreneurs that identify "integrators" as leaders responsible to a broad group of stakeholders (Pless, 2023).

However, the arguments developed in this editorial should not lead to the simplistic conclusion that "small is beautiful," that is, that stakeholder capitalism is automatically realized in small contexts where only humanistic entrepreneurs attentive to the common good operate. Indeed, in SMEs—due to limited financial resources, weak cultural capital, or a lack of moral principles on the part of the entrepreneur—there may be cases of opportunistic behaviour toward non-owner stakeholders and the environment. SMEs are not "paradises on earth," and it is therefore not possible to make easy generalizations that idealize SMEs and small entrepreneurs. Furthermore, it must be considered that the strong link between humanistic entrepreneurship and SMEs could weaken as the size of the company grows, if the principles of humanistic management are not allowed to settle within the actors present in corporate governance.

Nevertheless, it is undeniable that small size makes organizational contexts more human, with lower risks of employee alienation and a stronger sense of community, which renders boundaries between organizational culture and local culture, and between firms and territorial stakeholders,

more permeable. In such contexts, entrepreneurial leadership is essential for choosing a value-based and cultural pathway closer to a more human and democratic capitalist logic. Since SMEs are contexts in which human beings are structurally at the centre of productive and organizational processes and of local socio-economic dynamics—at least due to the physical and cultural proximity that gives meaning to the idea of the "firm as a community"—they can be considered a key reference point for the implementation of stakeholder capitalism by the humanistic entrepreneur.

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CRM ADOPTION IN SMES: WHAT'S WRONG? AN EMPIRICAL PERSPECTIVE ON KEY ACTORS

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Abstract

Purpose. *Although the strategic nature of CRM is recognised, its adoption process is often hindered by various obstacles. This study examines the complexities of CRM adoption among SMEs, emphasising emerging tensions among stakeholders.*

Design/methodology/approach. *A case study is adopted to examine the CRM adoption in a firm operating in equipment rental. Data were collected through interviews, observation and secondary data. An integrate empirical and theoretical insights to understand emerging tensions is abductively developed.*

Findings. *The study suggests that CRM adoption in SMEs unfolds interactively between three key actors: the user, the vendor and the consulting. Rather than hindering, frictions and tensions act as mechanisms for learning and adapting resources. This led the firm to incorporate CRM-like approach without adopting a software.*

Practical implications. *The findings emphasise how CRM adoption should be evaluated from more than a technological standpoint. The study suggests how managers could benefit from emerging frictions and tensions to avoid costly mistakes.*

Originality of the study. *The IMP analytical lens is employed to analyse how CRM adoption unfolds in SMEs, shifting from a linear perspective to a dynamic and interactive one. It highlights the crucial role of vendors and consultants interaction in this process.*

1. Introduction

Customer Relationship Management (CRM) systems are widely recognised as a strategic tool for enhancing customer relationships, streamlining business operations and improving firm performance (Payne & Frow, 2005; Buttle & Maklan, 2019; Suoniemi et al., 2022). Over the past three decades, the adoption of CRM has been subject to extensive study, with most research conceptualising it as a linear, stage-based process that progresses from evaluation to adoption and routinisation (Cruz-Jesus et al., 2019; Prior et al., 2024). This dominant view portrays CRM as a technological solution whose success depends primarily on the user commitment. When adopting CRM, firms often face various challenges, including technological, organisational and inter-organisational issues, which may impede the adoption process and the realisation of expected outcomes (Nguyen & Waring, 2013; Suoniemi et al., 2022).

CRM adoption is particularly demanding for small and medium-sized enterprises (SMEs). SMEs often lack the necessary financial, human and technical resources to manage complex IT projects, and therefore rely heavily on external support and vendor expertise (Alshawi et al., 2011; Al-Homery et al., 2023). As CRM adoption falls under the umbrella of firms' digitalisation, it is worth noting that Italian SMEs tend to lag behind in this practice, often hindered by weaker capabilities and lower investment compared to their European counterparts (European Investment Bank, 2020). In Italy, the challenge of adopting CRM systems is further compounded by a structural digitalisation gap: while around 53% of large firms have implemented such systems, this figure drops to just 19.2% for SMEs (ISTAT, 2023). Furthermore, two-thirds of adopters experience ongoing integration issues and low success rates, with fewer than 30% achieving the expected outcomes (Osservatoriocrm.it, 2024; Farhan et al., 2018). These difficulties encourage SMEs to involve external actors in the CRM adoption process attempting to improve their ability to overcome the challenges. Therefore, Adopting CRM in SMEs may involve several external partners, whose contributions are essential for full adoption to be achieved. Consequently, it is important to understand whether CRM adoption outcomes depend not only on technical and managerial factors within the adopting firm, but also on the support provided by the various stakeholders involved in the adoption process (Suoniemi et al., 2022).

To capture the interactive dynamics of CRM adoption, this study employs the Industrial Marketing and Purchasing (IMP) perspective as an analytical lens (Perna, 2013; Baraldi & Perna, 2014). The study uses the IMP concepts of frictions and tensions to analyse the interactions between actors while the adoption process unfolds. Despite the growing recognition of the importance of the CRM adoption, little attention has been given

to how frictions and tensions between actors emerge during the adoption process (Möller & Halinen, 2022). This study addresses this gap by examining the CRM adoption case of ALPHA, an Italian SME operating in the equipment rental and construction services sector. Accordingly, the study is guided by the following research question: How does CRM adoption unfold through network actors' interactions?

The study takes a qualitative, longitudinal case study approach (Yin, 2018; Eisenhardt & Graebner, 2007) to examine ALPHA's CRM adoption journey over a period of more than two years. Data were collected through semi-structured interviews, participant observation and secondary sources (Patton, 2014; Yin, 2018). The analysis took an abductive approach (Dubois & Gadde, 2002), iterating between empirical evidence and adopting the IMP framework as an analytical lens in order to identify emerging frictions, tensions and patterns of interaction.

The study makes three main contributions to the CRM literature. Firstly, the interaction processes identify three key actors — the SME, the vendor and the consulting firm — whose interplay shapes the trajectory of CRM adoption. Secondly, it demonstrates the non-linear, recursive nature of CRM adoption by showing how SMEs may opt for adaptive solutions instead of full-scale implementation. Thirdly, it demonstrates that frictions and tensions in CRM adoption processes act as learning mechanisms that play a positive role in leading the firm to avoiding a potentially misguided investment for the software.

The paper proceeds as follows: Section 2 reviews the literature on CRM and explains why the IMP perspective was used. Section 3 describes the methodology. Section 4 presents the findings. Section 5 discusses the implications. Section 6 concludes with a summary and directions for future research.

2. Literature background

2.1 Conceptualising CRM

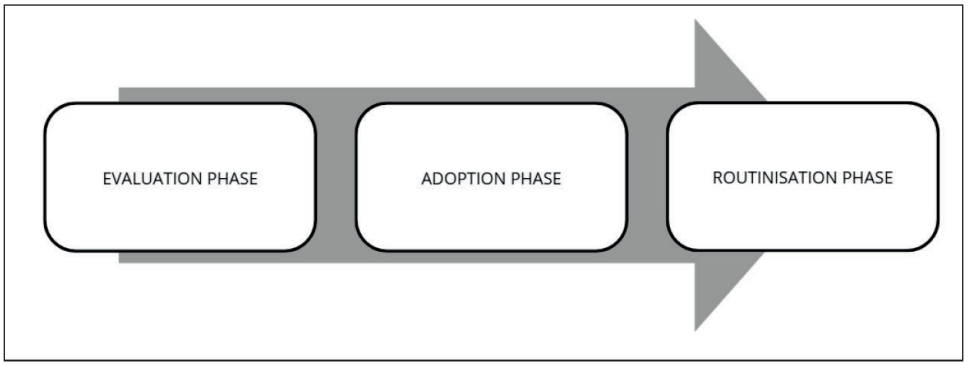
The ambiguous conceptualisation of CRM makes it difficult for it to be adopted, as the lack of a stable and shared meaning makes it hard to define clear objectives and align technological and organisational changes (Perna & Baraldi, 2014). Despite its widespread awareness, CRM remains conceptually fragmented, with more than 100 definitions identified in the literature (Perna & Baraldi, 2014). This heterogeneity reflects the dual nature of CRM as both a strategic business approach and a technological tool (Payne & Frow, 2005; Buttle, 2004), as well as the coexistence of technology-driven and managerial-relational interpretations (Iriana & Buttle, 2007; Cruz-Je-

sus et al., 2019). CRM has evolved from a software to a cross-functional strategic approach that integrates marketing, operations and information management (Parvatiyar & Sheth, 2001; Payne & Frow, 2005), thereby linking customer engagement with organisational knowledge and value creation (Buttle, 2004; Payne & Frow, 2016). From this broader perspective, CRM is typically characterised by four interconnected dimensions: strategic, operational, collaborative and analytical (Iriana & Buttle, 2007; Khodakarami & Chan, 2014). The strategic dimension aligns relationship initiatives with long-term objectives (Payne & Frow, 2005; Buttle & Maklan, 2019; Verhoef & Lemon, 2013), the operational dimension automates customer-facing processes (Chen & Popovich, 2003; Rahimi & Günlü, 2016; Payne & Frow, 2016), the collaborative dimension coordinates internal and external stakeholders (Iriana & Buttle, 2007; Reinartz et al., 2004; Nguyen & Mutum, 2012; Choudhury & Harrigan, 2014), and the analytical dimension generates data-driven insights (Khodakarami & Chan, 2014; Garrido-Moreno et al., 2020; Payne & Frow, 2005; Chatterjee et al., 2021). Together, these dimensions present CRM as an integrated managerial approach rather than merely a technological tool (Buttle & Maklan, 2019; Prior et al., 2024), which highlights the inherent complexity of its adoption (Perna & Baraldi, 2014).

2.2 The CRM Adoption Process

CRM adoption is traditionally conceptualised as a structured, staged *process through which organisations integrate new systems,* routines, and relational practices (Alshawi et al., 2011). It typically progresses through phases of evaluation, adoption and routinisation (Cruz-Jesus et al., 2019), moving from initial assessment to implementation and eventual embedding in everyday operations (see Figure 1).

Fig.1 CRM adoption stages



Source: Author elaboration based on Cruz-Jesus et al. 2019

Previous studies have identified various technological, organisational and environmental factors that influence this process. From a technological perspective, successful adoption hinges on data quality, system compatibility, and integration with existing infrastructures (Chen & Popovich, 2003; Cruz-Jesus et al., 2019). Organisational enablers include leadership commitment, employee engagement and cross-departmental coordination (Lawson-Body et al., 2011; Pedron & Caldeira, 2011), while competition, customer expectations and vendor relationships are among the external pressures that also influence adoption trajectories (Kubina & Lendel, 2012; Alghamdi, 2023). However, research has also recognised that CRM adoption involves multiple organisational and external actors with differing goals and interpretations that shape implementation outcomes (Nguyen & Waring, 2013; Suoniemi et al., 2022; Khattak et al., 2022). Aligning these heterogeneous perspectives is essential for achieving a shared vision of CRM's purpose and value (Baraldi et al., 2013; Buttle & Maklan, 2019). Given CRM's multidimensional nature, encompassing strategic, operational, collaborative, and analytical dimensions (Iriana & Buttle, 2007; Khodakarami & Chan, 2014), it cannot be reduced to a mere technological investment. Rather, it must be understood as a managerial process requiring the integration of technological, organisational, and relational capabilities (Payne & Frow, 2005; Buttle & Maklan, 2019). Overall, CRM adoption emerges as a complex, socially embedded process that unfolds over time through the alignment of diverse organisational elements. Therefore, an interaction-oriented perspective is particularly relevant for understanding how CRM adoption develops beyond a purely linear or internally driven view.

2.3 A processual and interactive perspective on technology adoption

As CRM adoption can be seen as a process that typically involves multiple organisational and external actors whose expectations and interpretations influence the adoption process, this study uses the Industrial Marketing and Purchasing (IMP) perspective as an analytical lens. IMP studies approach marketing and technological development from an interaction-based perspective, emphasising how processes unfold through relationships among interdependent actors and resources (Håkansson & Snehota, 1995; Håkansson & Waluszewski, 2007; Prenkert et al., 2022). Therefore, it is particularly well-suited to examining how complex technologies are adopted, rather than being implemented as predefined solutions (Turnbull et al., 1996; Woo et al., 2004; Metcalf et al., 1992). Within this perspective, frictions are viewed as misalignments that occur at the interfaces between

heterogeneous resources, infrastructures and organisational units, when efforts are made to combine or rework them (Håkansson & Waluszewski, 2002; Baraldi et al., 2012). Tensions arise when parties involved in the adoption process have different goals or interpretations of the ongoing change (Hoholm & Olsen, 2012; La Rocca et al., 2016). Rather than signalling failure, these mechanisms usually trigger negotiated adaptation processes that shape technological adoption (Håkansson & Waluszewski, 2011; Perna & Baraldi, 2014).

3. Methodology

The study adopts a qualitative approach to gain an in-depth understanding of complex phenomena, collecting data without altering the context (Yin, 2018). Using a qualitative methodology provides a more comprehensive and in-depth understanding of the phenomenon, thereby clarifying and extending existing analytical insights (Voss, 2010; Kähkönen & Tenkanen, 2010). This method allows interaction patterns in CRM adoption processes to be captured (Aaboen et al., 2012). The methodology is also informed by the IMP perspective of interactive studies that enhance the use of qualitative, information-rich case studies (La Rocca et al., 2017). The study is based on a longitudinal case study to provide a process-oriented perspective and support an understanding of the interactions between actors, as well as the emergence of frictions between technological and organisational resources during the CRM adoption process (Langley et al., 2013).

The case study was selected for its revelatory potential as it involved a medium-sized firm engaged in a CRM implementation initiative. This offered a unique opportunity to observe the emergence of frictions and tensions during the process (Coviello & Joseph, 2012).

3.1 Case selection, context and data collection

The focal firm is an SME that operates within the construction and production plant maintenance service provider and rental equipment industry. Based in central Italy, the firm operates within the country's borders. It is extending its presence through subsidiaries in other regions. So far, ten subsidiaries have been established. In 2022, the company achieved a turnover of almost 26 million euros, employed over 150 people directly and indirectly, and provided services to around 2,000 customers. The group is owned by a single shareholder and entrepreneur who intends to utilise digital technology to improve the firm's marketing and sales processes.

The university research team had prior academic relationships with AL-

PHA, providing preferential access to data and key informants throughout the CRM initiative. This enabled the team to observe the project over time and document its development from the initial stages to the operational rollout, while maintaining analytical independence. This approach yielded a richer and more detailed understanding of the phenomenon under investigation (Yin, 2018). Data collection unfolded through a snowballing sampling process whereby informants were selected based on their relationship with the focal firm (Biernacki & Waldorf, 1981; Marcus et al., 2017). All informants were directly involved in the CRM adoption process. A total of 21 semi-structured interviews, totalling 665 minutes, were conducted with key informants in the network (Siggelkow, 2007). Three key actors were selected because they represent the core interaction units in the CRM adoption process, in which the main resource frictions and actors' tensions emerged. Although other actors (such as customers or other technology partners) were part of the broader network, they were less involved in CRM adoption. Consequently, their interactions did not significantly influence the focal dynamics analysed in this study and were therefore excluded from the core analytical framework.

Table.1 Interviews' design

n.	Data	Informant	Firm	Support	Length (mins)
1	01/12/2023	Marketing Executive	ALPHA	Video + notes	40
2	06/12/2023	Marketing Executive	ALPHA	Video + notes	35
3	08/01/2024	Marketing employee	BETA	Video + notes	15
4	08/01/2024	Marketing employee	BETA	Video + notes	15
5	12/01/2024	Management Engineering	ALPHA	Video + notes	35
6	02/02/2024	Sales director	ALPHA	Video + notes	20
7	26/02/2024	Sales director & IT manager	BETA	Video + notes	25
8	10/05/2024	Marketing Executive	ALPHA	Video + Notes	40
9	15/05/2024	Sales Director	ALPHA	Video + Notes	25
10	18/05/2024	Management Engineer	ALPHA	Video + Notes	30
11	22/05/2024	Sales Director & Technician	BETA	Video + Notes	35
12	25/05/2024	Marketing Employee	BETA	Video + Notes	20
13	28/05/2024	Consultant	Consulting	Video + Notes	40
14	30/05/2024	CEO	ALPHA	Video + Notes	45
15	11/10/2024	Consultant	Consulting	Video + Notes	40
16	18/11/2024	Management Engineer	ALPHA	Video + Notes	30

17	21/01/2025	Key Customer – Procurement Manager	ALPHA Customer	In person + notes	35
18	18/03/2025	Key Customer – Operations Manager	ALPHA Customer	In person + notes	30
19	22/06/2025	Technical Manager	Secondary Technology Partner	In person + notes	40
20	14/07/2025	CRM Integration Specialist	Secondary Technology Partner	In person + notes	25
21	15/07/2025	Entrepreneur (peer of ALPHA CEO)	External Firm	In person + notes	45
					Tot. 665 mins

Source: Author's elaboration.

Each interview was transcribed and translated into English before being analysed by each author. The results were then discussed jointly to minimise subjectivity in the interpretation of the data and implications of the study (Eisenhardt & Graebner, 2007). The coding process involved a two-step procedure. First, open coding was used to identify instances of friction and tension in the interview transcripts. Second, axial coding was applied to cluster these instances into higher-order categories (e.g. technological misalignment, strategic conflict, and relational resistance), which were then refined by comparing them with theoretical constructs. Furthermore, analysis of the findings highlighted a processual perspective (Langley, 1999; Pettigrew, 1992).

3.2 Data analysis

The analysis of the collected data was conducted using an abductive approach (Dubois & Gadde, 2002; Baraldi et al., 2012; Thompson, 2022). This approach enabled the identification of emerging dimensions of resource-related frictions, including technological, organisational and infrastructural misalignments, which were observed during the attempted adoption of CRM. This iterative process involves seamless navigation between theoretical frameworks and empirical information, enabling constant refinement of theoretical emphasis and data collection strategies (Dubois & Gadde, 2002; Dubois & Gibbert, 2010). The data were primarily extracted from interviews and organised in a structured Excel database, supporting the systematic mapping of informants, codes, and emerging themes to develop the study's findings and theoretical and managerial implications. Furthermore, a processual perspective was adopted in analysing the findings (Langley, 1999; Pettigrew, 1992). This processual lens was employed to reconstruct the chronological unfolding of the CRM adoption attempt, emphasise piv-

otal events and contextualise the tensions between actors, thereby offering a comprehensive view of the interactive CRM adoption process.

4. Findings

4.1 Case description

ALPHA is a medium-sized construction equipment and services firm. The firm's sales structure includes a sales director and two key account managers, as well as 12 subsidiaries in Italy. The study also considers two additional key actors in the process: BETA, a medium-sized software company with approximately €10 million in revenue and 60 employees, and a consulting firm specialized in B2B marketing and sales for SMEs. BETA has collaborated with ALPHA for several years. However, when the CRM adoption process began and initial implementation challenges emerged, ALPHA decided to involve the consultancy firm to manage BETA's technical decisions integrating strategic and commercial perspectives.

4.2 Inception (before 2021): early tensions and misalignments

The CRM adoption journey at ALPHA was initially driven by external influence rather than an internal assessment of operational needs. During a business event, the entrepreneur was introduced to the concept of CRM by a peer who had had a positive experience with it, facilitated by a business consultant. Inspired by this discussion, the entrepreneur envisaged using CRM to enhance sales processes and strengthen the firm's customer orientation.

"The CRM project was born out of a need, to be able to manage the company's growth project." (Marketing Executive, ALPHA)

Despite this enthusiasm, ALPHA had already been working with BETA, a long-standing technology provider which had struggled to deliver a viable digital sales solution. Prior to engaging the consultancy firm, ALPHA had attempted to digitise its sales operations independently, but these efforts had been fragmented and largely unsuccessful. This led to the decision to involve an external marketing consultant who had been recommended by a peer of the entrepreneur as an expert in B2B marketing and sales transformation.

However, tensions arose immediately when the consultant started evaluating ALPHA's digitalisation efforts. He swiftly identified significant

shortcomings in ALPHA's current digital strategy and recognised that numerous unresolved challenges had been overlooked.

"The entrepreneur already collaborates with a software house that has been serving the company for a long time, but they were facing problems that they could not solve and for which they had already invested." (Consultant)

This reveals initial friction between technological investments and organisational use. Although resources had been acquired, their potential remained unrealised due to a lack of coordinated organisational adaptation.

One of the consultant's primary observations was the lack of a structured internal analysis prior to the initiation of the CRM project. They noted that ALPHA lacked the necessary internal expertise and strategic roadmap for CRM adoption.

"No one had the skills or had ever bothered about it because internally there had never been any analysis of the company's needs and how it works." (Consultant)

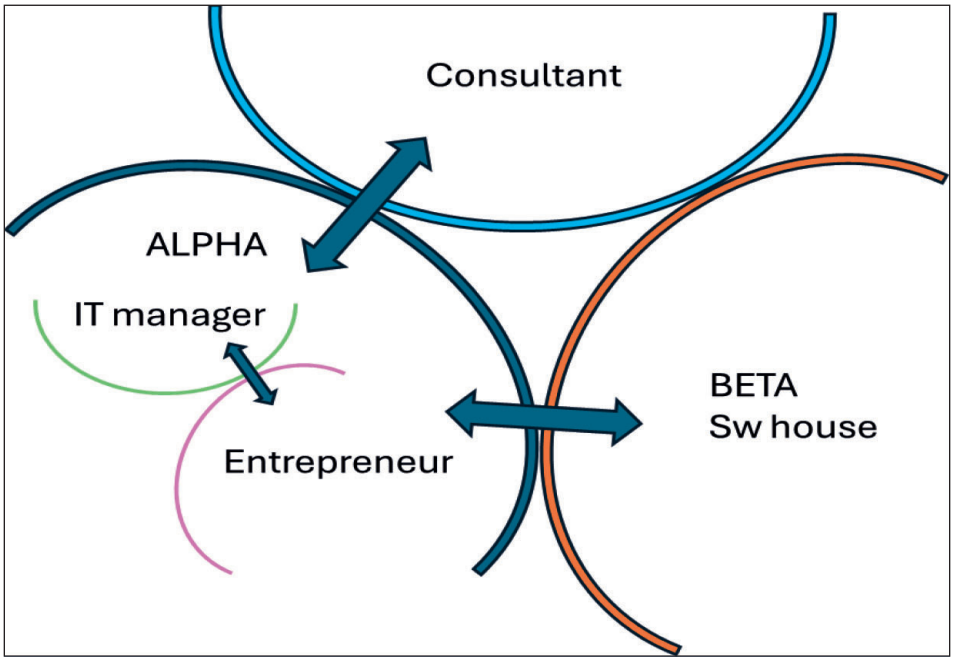
As the consultant introduced a structured marketing approach, tensions escalated, particularly with BETA, ALPHA's trusted software provider. The consultant's presence and methodical approach challenged BETA's long-standing role within ALPHA's digital transformation strategy.

"The fact that I arrived and brought more culture to these aspects, creating a marketing infrastructure from scratch, meant that the company became more aware and began to question the solutions that the software house was trying to propose." (Consultant)

Tensions escalated as the consultant introduced a structured marketing approach, particularly with BETA, ALPHA's long-standing trusted software provider. The consultant's presence and systematic approach threatened BETA's established role in ALPHA's digital transformation strategy.

"I represented the company's vision and not my own; I only helped the company clarify its vision and, as far as possible, realise it." (Consultant)

Fig.2 Inception phase actors' interfaces and relationships



Source: Authors' elaboration.

Figure key: Arrows determine a direct relationship. Blue shield is the consultant firm, Orange shield is the BETA SW house, Dark green shield is ALPHA. Within ALPHA the two actors that were involved in the inception phase.

4.3 Evaluation (2020 - 2021): Unfolding Tensions and Strategic Misalignments Inception

The evaluation phase at ALPHA was shaped by difficulties between internal needs and external constraints. Initially, the consultant and the IT manager conducted an internal assessment of the marketing and sales processes and identified the need for the structured adoption of CRM. A key tension emerged when the consultant recommended hiring a marketing executive to oversee the project. After some initial reluctance, the entrepreneur agreed, and by late 2021, the marketing executive had joined ALPHA.

The newly formed marketing team then conducted a structured evaluation of multiple CRM solutions, assessing vendors through demonstrations and user reviews.

"We had identified a whole series of criteria on which to evaluate CRM software, did demos with five providers, and integrated user reviews from Capterra." (Marketing Executive, ALPHA)

However, this structured process was abruptly derailed when the entrepreneur handed complete control to BETA, the long-standing IT provider, thereby sidelining the independent evaluation.

BETA's initial proposal of an open-source CRM system immediately raised concerns due to several critical issues. These included a lack of compatibility with ALPHA's ERP system, an absence of a prior needs assessment and a tendency to focus on selling the CRM system as a standardised product rather than addressing ALPHA's specific organisational challenges. This incompatibility created friction at the interface between the CRM and existing infrastructures.

"They didn't analyse our needs before suggesting a CRM but tried to sell us something as if we were at the greengrocer." (Marketing Executive, ALPHA)

Following the rejection of the first proposal by ALPHA, BETA backtracked by proposing a second, higher-end CRM from a leading provider. However, this led to further tensions between the parties involved: BETA pushed for minimal customisation, promoting a standardised solution, while ALPHA demanded a tailored CRM aligned with its sales structure and processes. ALPHA, on the other hand, demanded a CRM tailored to its sales structure and processes.

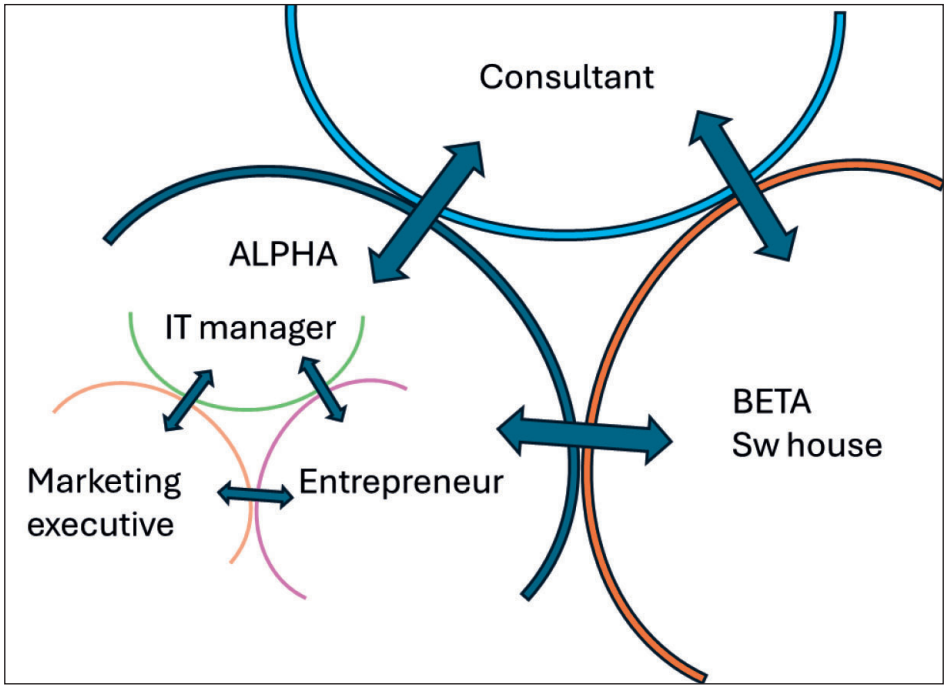
"I don't want compilation systems. I want everything at the click of a mouse." (Marketing Executive, ALPHA)

Attempting to counteract BETA's influence, the consultant mapped out ALPHA's sales process and CRM requirements in detail. This reduced BETA's ability to shape the direction of the project. However, this intensified tensions, with BETA resisting further collaboration.

Amidst growing uncertainty from the entrepreneur, ALPHA ultimately halted the CRM adoption process. Instead, the company chose to integrate CRM functionalities into its existing ERP system, thus avoiding the risk of investing in incompatible software.

"The company decided to put the project on standby until the software house would understand what it was asking for." (Consultant)

Fig.3 Evaluation phase actors' interfaces and relationships



Source: Authors' elaboration.

Figure key: Arrows determine a direct relationship. Blue shield is the consultant firm, Orange shield is the BETA SW house, Dark green shield is ALPHA. Within ALPHA the three actors that were involved in the evaluation phase.

4.4 Adopting a CRM Without a CRM (2021-2022): Tensions Driving an Alternative Path

Following two years of evaluation and ongoing tensions between ALPHA, the consultants, and the long-standing software provider BETA, the CRM adoption project reached an unexpected turning point. The entrepreneur, growing increasingly wary of the risks of failure and misaligned expectations, hesitated to proceed. Internal resistance, coupled with ongoing tensions with BETA, prompted ALPHA to abandon the idea of adopting an external CRM system. Instead, the firm opted to embed CRM functionalities into its existing ERP system and develop a CRM approach through alternative activities.

The decision not to adopt CRM was not a straightforward rejection, but rather a strategic adaptation triggered by several issues — technical limi-

tations, organisational resistance and misalignment between vendors and users. The consultant summarised the decision:

"The basic scenario was to use the ERP because the sales team already used it for invoicing and quotations. It already contained all master fields and could be expanded. Instead of CRM software, a reporting system was implemented to guide sales activities based on customer data, managed by the marketing team." (Consultant)

Although ALPHA rejected an external CRM solution, the company recognised the need for a structured approach to customer relationship management. The revised approach integrated key CRM functions into the ERP system. These functions include tracking customer interactions, such as calls, emails, and meetings; monitoring the sales pipeline from initial requests to contract closure; and improving data analytics in order to support decision-making and customer targeting.

New difficulties emerged. Despite this transition, internal resistance and coordination challenges arose, especially during the ERP adaptation.

Integrating CRM-like features required cross-departmental collaboration, which increased workloads and responsibilities, generated resistance among sales representatives who feared additional administrative burdens, and called for alignment between marketing, IT, and sales in order to ensure that the system matched operational needs.

Initially, structured data analysis meetings were introduced, but adoption was slow.

"When sales reps were available, they spent a day searching for data and discussing with marketing and sales management." (ALPHA IT manager)

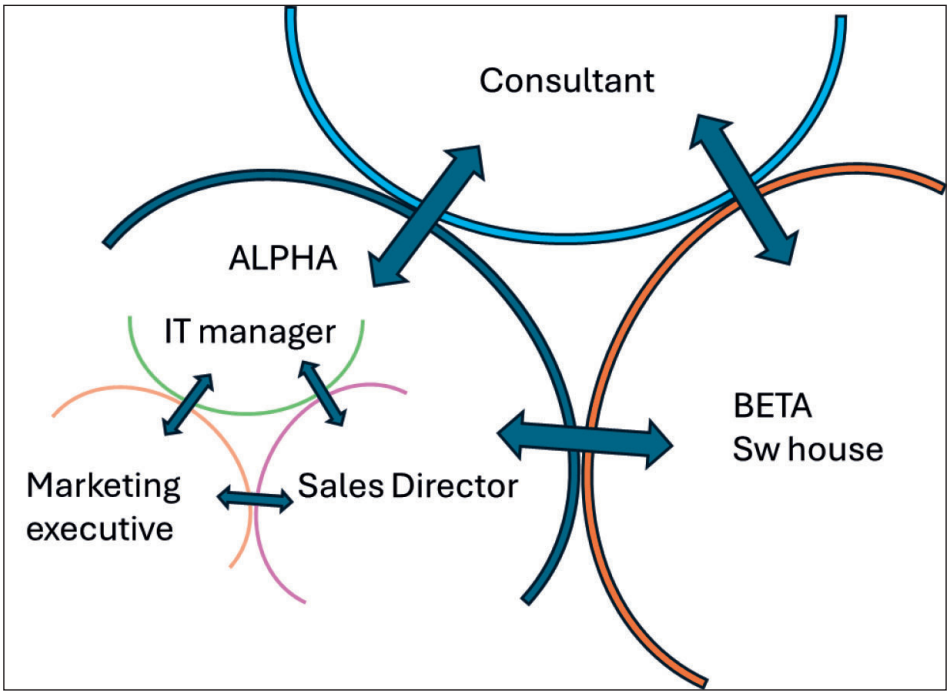
Gradually, the process gained traction through training initiatives and consultancy guidance, ensuring alignment between strategic objectives and operational execution.

However, a changing power dynamic has brought new tensions with BETA. Although ALPHA distanced itself from adopting a CRM system through BETA, the software provider was not entirely excluded. The ERP system remained dependent on the IT team at BETA for data extraction and integration, necessitating continued collaboration. However, tensions persisted as BETA's reduced influence over ALPHA's digital strategy weakened its control. The IT manager played a pivotal role in managing this balance, ensuring ALPHA's strategic independence while maintaining a functional working relationship with BETA.

Rather than shutting down the project, ALPHA's decision pivoted on the misalignment between the proposed CRM product and the firm's mar-

keting and sales requirements, ending with a different approach to CRM adoption. The standardised solution promoted by BETA did not fit ALPHA's existing sales structure, reporting logic or operational processes. In particular, the proposed CRM required configurations and routines that did not fit with the marketing and IT departments' vision according to firm's customer management. The rise of those issues brought the firm in deciding to adapt the ERP system to perform basic CRM functions. Adapting it, required organisational adjustments and new routines. Technological issues also persisted as ERP modifications remained dependent on BETA. However, embedding selected CRM functionalities into the existing ERP system represented a negotiated adaptation rather than a failure. Rather than conforming to a predefined CRM model, ALPHA adapted its digitalisation strategy to better align with its organisational structure and marketing-sales approach.

Fig.4 Adoption phase actors' interfaces and relationships



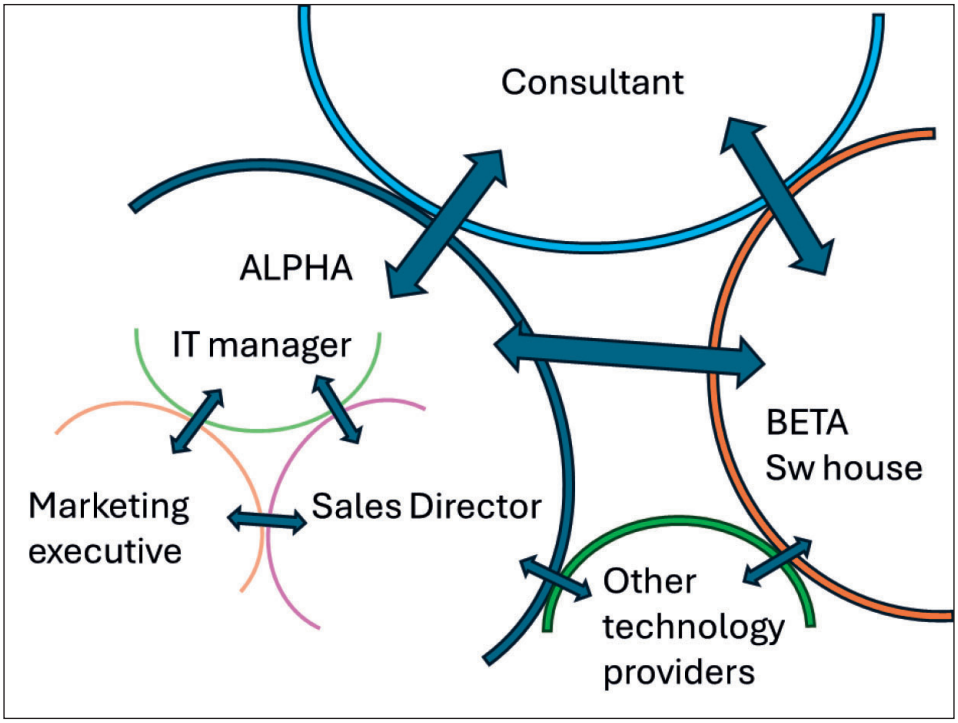
Source: Authors' elaboration.

Figure key: Arrows determine a direct relationship. Blue shield is the consultant firm, Orange shield is the BETA SW house, Dark green shield is ALPHA. Within ALPHA the three actors that were involved in the adoption phase.

4.5 Routinisation (2023-)

By the end of 2023, CRM-related practices had become embedded in ALPHA's daily operations. Monthly meetings between the marketing department and sales representatives provided structured sales reports, improving coordination between departments and strengthening data-driven decision-making processes. This process enhanced customer targeting and refined ALPHA's sales strategies, contributing to a gradual cultural shift across its subsidiaries. However, despite these advancements, frictions persisted, particularly regarding the limitations of the ERP in fully integrating CRM-like functionalities. Slow progress in incorporating call tracking and email data created tensions and raised concerns about incomplete customer insights. This sparked renewed discussions on whether to continue modifying the ERP or adopt a dedicated CRM tool instead. Further challenges emerged as ALPHA had to coordinate with multiple technology providers to implement additional features. Despite past resistance, BETA was now required to collaborate with external vendors, leading to organisational frictions and misalignments. Although the consultant and marketing executive provided strategic guidance, the IT manager was responsible for executing the firm's vision by managing evolving technical requirements and vendor relationships. Ultimately, ALPHA remained committed to its ERP-based CRM approach, navigating the ongoing tension between customisation and efficiency. However, unresolved technological constraints and ongoing internal debates indicated that the adoption of a CRM system was still uncertain, with the need for a fully integrated solution remaining on the horizon.

Fig.5 Routinisation phase actors' interfaces and relationships



Source: Authors' elaboration

Figure key: Arrows determine a direct relationship. Blue shield is the consultant firm, Orange shield is the BETA SW house, Dark green shield is ALPHA, Light green are the other technology providers. Within ALPHA the three actors that were involved in the routinisation phase.

5. Discussion

5.1 Theoretical implications

5.1.1 An interactive perspective of the CRM adoption

Recent research on digital transformation and organisational change has widely criticised the idea that technological adoption follows a predictable, linear trajectory (Suoniemi et al., 2022). These studies emphasise that adoption processes are emergent and shaped by local contingencies, iterative learning and continuous negotiation among interdependent actors (Orlikowski, 2000). In line with this view, this study shows that also CRM adoption in SMEs should be considered an interactive, recursive and non-linear process.

In the case of ALPHA, through network interactions, the firm ultimately decided against purchasing a stand-alone CRM system and instead opted to embed CRM-like functionalities within its existing ERP system, thus adopting a CRM approach rather than just a software. This adaptation reflects the embedding of digital functionalities within established organisational and technological structures rather than the straightforward acquisition of software (Håkansson & Waluszewski, 2002). Such situated strategies suggest that departures from initial implementation plans may indicate strategic rationality and organisational learning rather than failure.

The case study demonstrates that adoption outcomes are not predetermined but rather emerge from inter-organisational interactions. The interactions between the three key actors — the SME, the software vendor and the consultancy firm— play a central role in this process, shaping feasible, context-sensitive solutions. This triadic interaction is an example of what IMP scholars describe as the co-evolution of resources and relationships: changes in ALPHA's internal systems, BETA's technical proposals and the consultant's interpretative role continuously reshaped each other throughout the adoption process (Håkansson & Snehota, 1995; Baraldi et al., 2012). In the context of CRM adoption in SMEs, success should therefore be measured by the extent to which relational and technical alignments enable the firm to generate learning and value over time.

5.1.2 The CRM adoption key actors

Previous research has typically conceptualised CRM adoption as a dyadic process between buyers and vendors, emphasising the technological and managerial alignment necessary for system implementation between these two actors (Nguyen & Waring, 2013; Suoniemi et al., 2022; Farhan et al., 2018). Conversely, research within the IMP tradition has increasingly emphasised the networked and multi-actor nature of technological transformation processes (e.g. Ferreira & Lind, 2023).

Although prior studies have examined the role of consultants in technology adoption, the CRM literature has paid limited attention, particularly in the context of SMEs, to the specific interpretive and mediating role of external consultants in bridging technical and organisational domains (cfr. Ghobakhloo et al., 2012; Canato & Giangreco, 2011). Building on the IMP analytical lens, this study extends prior understanding of CRM adoption by showing how, in SMEs context, consultants may become crucial mediators of meaning and coordination between buyers and vendors throughout the CRM adoption process (cfr. Galvani & Bocconcelli, 2022).

Therefore, Alpha case study highlights that CRM adoption in SMEs does not unfold through a buyer–vendor relationship, as much of the literature

on CRM assumes (Payne & Frow, 2005; Dalla Pozza et al., 2018). Instead, it evolves as a triadic configuration involving the SME, the software vendor and an external consultant acting as a relational mediator. It is also worth noting that SMEs lack the internal expertise to evaluate technological implications and the resources to manage digitalisation processes (European Investment Bank, 2020). The study emphasises that vendors typically focus on system functionalities and commercial outcomes. Therefore, the consultant's role emerges as a potential mediator over the tensions between these two actors, enhancing CRM adoption process interactions by translating managerial needs into technical specifications and reframing vendor solutions in terms that are meaningful to the client's operations. This interpretive role aligns with the IMP notion of boundary-spanning actors who facilitate the translation of resources across organisational interfaces (Hoholm & Olsen, 2012; Baraldi et al., 2012). Within the IMP realm, this triadic setting exemplifies a network interaction (Håkansson & Snehota, 1995; Ford et al., 2011), in which value emerges through interdependencies rather than isolated actions. Therefore, the study advances existing CRM knowledge by highlighting the crucial role of consultants as mediators between technical and managerial domains, as well as between buyers and vendors. They help SMEs to avoid unsuitable technological investments and steer CRM adoption decisions towards context-appropriate solutions.

5.1.3 interactive learning and strategic adjustment

Previous studies have generally depicted misalignment and a lack of resources as obstacles to implementation and innovation (Nguyen & Waring, 2013; Farhan et al., 2018; Suoniemi et al., 2022). However, the Alpha case offers a more nuanced interpretation. Rather than being viewed as mere obstacles, moments of misalignment during the CRM adoption process provided opportunities for reflection, dialogue, and strategic reassessment. Building on these findings, this study examines how such dynamics operated within the CRM adoption process of an SME. The findings show that frictions and tensions acted as triggers for reflection, dialogue, and strategic reassessment — particularly when vendor proposals conflicted with organisational routines and managerial expectations. These moments of disagreement prompted individuals to question initial assumptions and explore alternative solutions, thereby fostering organisational learning (Weick, 1995).

In line with previous studies on technological embedding and organisational adaptation (Håkansson & Waluszewski, 2011; Hoholm & Olsen, 2012), the results indicate that conflictual interactions can facilitate the reconfiguration and coordination of resources. However, the Alpha case

study emphasises the importance of these dynamics in the context of CRM adoption by SMEs, where limited internal expertise and resources can lead to misaligned technological investments.

Specifically, the tensions that emerged between the SME and the vendor — mediated by the consultant's interpretive role — played a constructive function by preventing ALPHA from committing to an unsuitable stand-alone CRM system. Instead of leading to project failure, these tensions encouraged critical evaluation and supported the development of a more context-sensitive solution that was integrated into the existing ERP system. In this sense, frictions operated as mechanisms of organisational learning and strategic adjustment.

5.2 Managerial implications

From a managerial perspective, recognising frictions and tensions as moments of constructive disagreement can help SMEs to avoid unsuitable technological choices and to promote more sustainable paths of digital transformation. Table 2 summarises the main stages, actors, and decision outcomes observed in the Alpha case, illustrating how different frictions unfolded and were addressed throughout the CRM adoption process. The sequence shows how initial strategic and organisational conflicts evolved into resource and infrastructural adaptations, ultimately leading to the stabilisation of a CRM-like ERP solution.

The study emphasises the strategic importance of consultants as 'boundary actors', mediating between technical and organisational domains to ensure that CRM systems evolve in line with business needs. For software vendors, the findings emphasise the importance of working together to develop solutions that reflect the strategic priorities and organisational routines of client firms. Furthermore, from a managerial perspective, the findings emphasise the importance of viewing frictions as constructive components that support digital transformation.

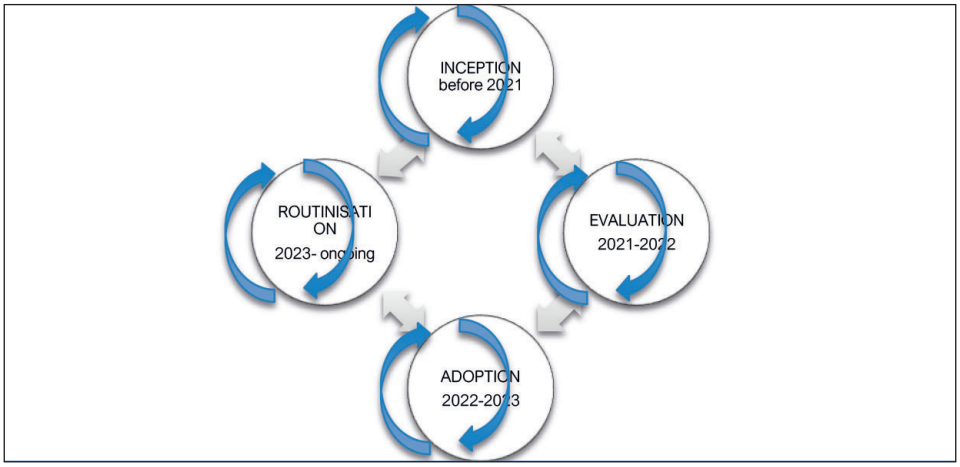
Table 2. Evolution of Frictions and Decisions during CRM Adoption in ALPHA

Phase	Interface	Type of friction	Actors involved	Nature of tension	Outcome Decision
Inception	Organisational units – Relationships interface (consultant's marketing analysis vs established ALPHA–BETA technological relationship)	Strategic / Organisational	ALPHA – Consultant firm – BETA	Challenge to vendor role	Escalation of conflict
Evaluation	Product – Facilities interface (CRM software vs ERP infrastructure)	Technological	ALPHA – BETA	CRM–ERP misalignment	Rejection of off-the-shelf CRM
Adoption	Product – Organisational units interface (CRM logic vs internal routines and ERP-based processes)	Resource / organisational	ALPHA – BETA	Reduced vendor influence	Embedding in ERP
Routinisation	Facilities – Facilities interface (ERP infrastructure vs external technological modules)	Infrastructural	ALPHA – BETA – External vendors	Integration issues	CRM-like ERP stabilisation

Source: Authors' elaboration based on case data

Managers should recognise tensions as learning signals and use them to encourage reflection and design solutions that are more closely aligned with their firm's operational reality. Although Cruz-Jesus (2019) identifies three main phases, the Alpha CRM adoption process evolved through four distinct phases, as shown in Figure 1 below. The following sections present each phase of the Alpha CRM adoption process.

Fig.2 6 ALPHA CRM adoption process overview



Source: Authors' elaboration.

6. Conclusions

This study examined how the adoption of CRM unfolds through the interaction of network actors. Using the IMP perspective as an analytical lens, the research showed that, rather than being a linear technological implementation, CRM adoption in SMEs is a process of negotiation, adaptation and situated learning embedded in a network of interdependent actors.

In response to the research question — How does the adoption of CRM unfold through the interactions of network actors? This study identifies the interplay between three key actors: the SME (buyer), the software vendor and the consultancy firm. Their ongoing interaction influences strategic decisions, information flows and alignment processes, shaping how CRM adoption evolves. The study suggests that the consultant plays a pivotal mediating and interpretive role between the buyer and the vendor, playing in the interfaces where frictions emerge and actor tensions arise. Through consultants' involvement, SMEs may become better able to clarify their expectations, cope with asymmetries in expertise and power, and reconcile strategic concerns with operational requirements. Therefore, the study posits that CRM adoption is a networked process, shifting the focus from internal readiness to the interactive, relational and interpretive dynamics that sustain technological change.

Frictions and tensions emerge as mechanisms that shape CRM adoption process. Rather than having just downside the paper showed frictions and

tension upsides leading the actors to reassess the direction of adoption process. This is in line with frictions and tension literature (e.g. Prenkert et al., 2022) that is based as learning mechanism rather than hindering mechanism. In the Alpha case, for example, moments of disagreement exposed inconsistencies between the proposed technological solution and the firm's marketing and sales strategy, ultimately redirecting the adoption path.

Furthermore, the study highlighted the non-linear and recursive nature of CRM adoption. Rather than following a predefined sequence, the process evolved through interaction among the actors involved.

This study provides a novel perspective on CRM adoption in SMEs as an interaction-driven, iterative process, whereby technological outcomes emerge from the ongoing interaction between interdependent actors.

6.1 Limitations and further research avenues

The study focused on an SME operating in the construction and equipment rental sector. While this case study provided an insightful exploration of CRM adoption dynamics, further research is required to determine whether these findings can be applied to other organisational contexts. Comparative studies involving multiple SMEs from different industries or countries could help to establish whether the observed patterns — particularly the triadic interplay between the SME, vendor and consultant — hold true in diverse relational and institutional settings.

Another limitation concerns the study's longitudinal scope. While data collection spanned several stages of the adoption process, future research could extend the temporal scope to capture long-term post-adoption adjustments, as well as the evolution of relationships between actors once CRM or CRM-like solutions have become established. This could deepen our understanding of how frictions evolve over time, and of how learning mechanisms persist or fade beyond the initial decision-making phase.

Furthermore, while this study applied the IMP framework as an analytical lens, its purpose was interpretive rather than extending the theory. Future research could explicitly bridge IMP concepts with other theories, such as organisational learning, institutional work or technology-in-practice, to develop a more comprehensive understanding of how frictions operate as feedback loops in digital transformation.

Finally, future research could explore how firms strategically leverage frictions in broader digitalisation initiatives, such as the adoption of enterprise systems, AI-based business intelligence tools or automation platforms. By comparing firms that successfully manage frictions with those that do not, researchers could advance the study of digital transformation as a relational, recursive and learning-driven process, rather than a purely technological one.

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KEY CRITICAL ASPECTS OF SMES IN B2B LEAD GENERATION: INSIGHTS FROM AN ITALIAN QUALITATIVE STUDY

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Abstract

Purpose. *The aim of this study is to examine the key critical aspects of Lead generation (LG) that B2B SMEs must consider to successfully implement the process.*
Design/methodology/approach. *Given the complexity of the topic, the study relied on a qualitative abductive approach. Data collection combined 20 semi-structured interviews with selected experts, Italian B2B SMEs and marketing agencies, and the examination of secondary materials.*
Findings. *The results emerging from the analysis allow the identification of some key aspects of LG that B2B SMEs need to address for effective implementation. These aspects can be categorized into strategic and operational dimensions.*
Practical implications. *This study provides important managerial insights by highlighting the strategic and operational elements crucial for effective LG in B2B SMEs. By identifying these critical aspects, marketing managers gain a structured framework to enhance the strategic importance of LG initiatives and improve coordination with the sales function. Additionally, these insights offer practical guidance for SMEs, serving as a reference tool to evaluate organizational readiness and identify gaps before implementing LG processes. Overall, the findings support managers in making informed decisions, fostering alignment across functions, and ensuring that LG activities are both strategically grounded and operationally effective.*
Originality of the study. *The originality of this study lies in identifying three main strategic aspects (marketing strategy, lead-centric value creation, and digital culture) as key dimensions to be considered when adopting and developing an LG process. In addition, the research highlights three critical operational aspects (phygital marketing channel management, digital integration, and Marketing-Sales alignment) that emerge as essential for the effective execution of LG.*

1. Introduction

In recent years, the rapid acceleration of digital transformation has reshaped business-to-business (B2B) contexts, exerting growing pressure on firms to adapt their strategies (Kyrdoda et al., 2025). Digital technologies are no longer peripheral tools but have become central enablers of competitive advantage and long-term relational exchange (Conti et al., 2023).

The academic literature offers several insights into the implications of digitalization in B2B environments. Digital transformation encourages firms to pursue innovation through the adoption of emerging technologies and the development of strategies aimed at enhancing operational performance (Shashi et al., 2025). Digital technologies improve information acquisition and analysis, enabling marketing managers to generate precise and actionable insights (Olan et al., 2025). Furthermore, new digital tools facilitate product design and customization (Beckers et al., 2018) and expand product functionalities (Wang, 2021). Additionally, the increasing shift toward online purchasing and the growing importance of digital touchpoints significantly shape the customer journey, moving it toward a cyber-physical environment and influencing marketing channel architecture as well as supplier integration (Bamberger et al., 2025; Kannan, 2017).

Although considerable attention has been devoted to the operational benefits of digital technologies, fewer studies have investigated their impact on relational development (Schepis & Kingshott, 2024). Recent contributions stress the importance of exploring how suppliers and customers perceive and engage with networks (Munksgaard et al., 2024). Technological innovations are seen as facilitators of long-term relationships and resource exchanges among network actors (Venetis & Ghauri, 2004), while also enabling new forms of interaction between buyers and suppliers (Hofacker et al., 2020).

At the same time, literature highlights several critical gaps. Research on Lead generation (LG) in B2B contexts indicates that few studies emphasize the need for a strategic approach. LG processes are still often treated primarily as sales-driven activities, despite evidence of the crucial role of Marketing in identifying and nurturing valuable leads (Pullins et al., 2017; Smith et al., 2006). The necessity of exploring the marketing function's contribution to LG also emerges from managerial evidence. Surveys reveal that most marketing experts consider LG essential (Digitalzone, 2024), while recent findings show that B2B companies prioritizing LG and lead management experienced significant revenue growth in 2024 (Demand Gen, 2024). Furthermore, firms increasingly aim to implement strategic plans centered on brand awareness and LG activities (Osservatorio B2B, 2023).

These gaps suggest a limited systemic understanding of the key challenges B2B companies face in increasingly digitalized markets when creat-

ing new relationships through effective LG strategies. This need for further exploration is particularly relevant for small and medium-sized enterprises (SMEs). While digital channels provide SMEs with significant opportunities for performance improvement, growth, and competitiveness (Liao et al., 2023; Taiminen & Karjaluoto, 2015), many continue to underutilize these technologies or struggle to fully leverage their potential (Escoz Barragan & Becker, 2025; Faiz et al., 2024).

Therefore, the purpose of this study is to examine the key critical aspects of LG that B2B SMEs must consider to successfully implement the process. Thus, the research question of this study is: How can the Lead generation process be implemented by B2B SMEs? We address this research question through an empirical study conducted within this context.

This paper is structured as follows. First, we introduce the literature on SMEs in the new B2B context and LG process; then, we outline the research methodology. Last, we present findings, discussions, and conclusions.

2. Literature review

2.1 Digital transformation: the key role of B2B relationships

Digital transformation has generated implications across multiple contexts, with new technologies reshaping and redefining the nature of interactions in the B2B domain (Kyrdoda et al., 2025). This environment is characterized by exchanges embedded in medium- to long-term relationships and involving complex goods and services.

The complexity of business relationships has been extensively analyzed by the IMP Group (Snehota & Håkansson, 1995). In the marketing discipline, the identification and recognition of buyer–seller relationships, as well as the concept of "networks" in business markets (i.e., "markets-as-network"), are among the most significant contributions of the IMP Group's founders (Ford et al., 1998; Håkansson, 1982). These theoretical concepts explain a largely overlooked empirical phenomenon: suppliers and customers closely interact, mutually modifying their relationships, rather than basing all decisions solely on price (Håkansson, 1982). Each actor can be understood as a node within multiple relationships, inherently connected to other organizations and forming a network structure. Business markets are thus grounded in networks of actors who interact and exchange resources. These exchange systems (Prenkert & Hallen, 2006) are highly interconnected, as interactions within a single relationship inevitably influence all other interactions across the network (Snehota & Håkansson, 1995).

Recent literature highlights the importance of examining how suppli-

ers and customers perceive and engage with their surrounding networks (Munksgaard et al., 2024). Digital technologies hold the potential to fundamentally transform interaction mechanisms (Hofacker et al., 2020). They not only support the maintenance of long-term relationships but also enable the creation of new connections (Venetis & Ghauri, 2004). Academic contributions further suggest that technological innovations shape business relationships by raising new questions regarding their role in relationship development, the reorganization of activities, and the adoption of innovative tools that can support such changes within firms (Schepis & Kingshott, 2024). Lundin and Kindström (2023) underscore that new technologies increasingly facilitate relationships between suppliers and customers, strengthening the potential of customer management processes. They also emphasize the need to explore the various stages of customer–supplier interaction and identify potential obstacles along with corresponding strategic priorities. Nonetheless, Ohiomah et al. (2019) point out the persistent lack of academic research and practical guidance on the effective understanding, attraction, and management of leads.

In this context, B2B customer engagement requires firms not only to identify decision makers within external stakeholder networks but also to target the appropriate types of customers through prospecting efforts (Rodriguez & Peterson, 2012). While the business context has traditionally relied on relationships built through offline marketing channels such as face-to-face meetings, trade fairs, and on-site visits, B2B firms are increasingly compelled to attract and engage potential customers through digital marketing channels, including email campaigns, websites, and social media platforms (Isabella et al., 2025; Järvinen & Taiminen, 2016).

Scholars have investigated the adoption and management of digital marketing channels primarily in large or highly innovative firms (Cenamor et al., 2019), but research focusing on SMEs in traditional industries remains scarce (Soto-Acosta, 2020). Yet, digital marketing channels can provide SMEs with numerous benefits, including broader market reach, enhanced visibility, and improved customer engagement at relatively low costs (O'Dwyer et al., 2009). Despite these advantages, SMEs face significant challenges in channel integration. Resource constraints — financial, human, and informational — often hinder their ability to design and implement effective strategies. Managing both digital and traditional channels simultaneously can result in duplicated activities, inconsistent messaging, and inefficiencies (Yan & Pei, 2011). Moreover, SMEs frequently lack the managerial expertise and technical skills required to harmonize channels, while customers' seamless use of multiple touchpoints adds complexity to monitoring and coordination. Overcoming these difficulties requires employee commitment, continuous training, and adequate IT infrastructure, which are critical to ensuring effective implementation (Kolbe et al., 2022).

2.2 Lead generation

In recent years, an increasing number of studies have highlighted how many B2B companies have begun reconfiguring their Lead generation (LG) and management activities (Terho et al., 2023). LG represents the first phase of the demand generation process and is primarily focused on attracting and acquiring potential customer contacts (Hall, 2023; Isabella et al., 2025; Saeidi & Hollensen, 2024). Several scholarly contributions have sought to identify the specific activities that characterize this process (Cooper & Budd, 2007). LG is particularly significant as it enables the identification of high-value leads, which can subsequently be managed by Marketing and converted into actual customers by Sales (Pullins et al., 2017).

Data collected through LG processes primarily concerns firm characteristics such as demographics, sector, and employee numbers, and can be gathered directly or indirectly. Direct data collection occurs through both traditional channels (e.g., trade fairs, conferences, events, seminars) and digital channels (e.g., company websites, industry portals, online conferences, webinars, and social media). While traditional channels facilitate more personal and long-term relationships, digital tools allow for the rapid collection of detailed and updated information, making social media particularly relevant even in B2B contexts (Chelariu & Sangtani, 2009; D'Haen et al., 2016; Rodriguez & Peterson, 2012; Wilcox & Sussman, 2014).

Indirect data collection, by contrast, is based on the purchase of external databases from specialized providers (Ahmed & Kowalkowski, 2025; Mojir & Anbil, 2025). Although such datasets provide rapid access to large contact lists, they are often costly and of limited quality due to obsolescence, incompleteness, or poor alignment with the firm's target profile (D'Haen & Van den Poel, 2013; Dale Wilson, 2006). For this reason, firms increasingly prefer direct data collection, which, despite being time-intensive and yielding fewer contacts, provides more accurate and updated information derived from real interactions (D'Haen & Van den Poel, 2013).

These initial data represent the first step for engaging potential customers and identifying the most suitable customer profiles (Rodriguez & Peterson, 2012). However, relying on a single data source is increasingly rare and may prove problematic in lead acquisition (Baecke & Van den Poel, 2012). Marketing professionals must collect detailed information to better understand customer needs, buying influences, and decision-making processes (Rodriguez & Peterson, 2012). Yet, several studies show that a large proportion of collected contacts often remain unreached by sales representatives (D'Haen & Van den Poel, 2013; Sabnis et al., 2013). Such inefficiencies typically arise when internal processes are poorly systematized, activities lack definition, or there is insufficient alignment between Marketing and Sales.

Overall, the literature reveals that customer acquisition remains a fragmented area, requiring further systemic investigation (D'Haen & Van den Poel, 2013; Saeidi & Hollensen, 2024).

Historically, LG has been examined primarily from a sales perspective, with early research focusing exclusively on sales activities in relation to established business practices (Smith et al., 2006), while overlooking several critical shortcomings. Delegating LG solely to Sales has been shown to be overly complex and risks losing potentially profitable contacts. More recent contributions have begun to emphasize the importance of Marketing and its central role in LG (Isabella et al., 2025). Indeed, according to Adamson (2022), digital technologies support the B2B customer buying process throughout all stages, and sellers cannot operate effectively in isolation. Suppliers must recognize that the real challenge today lies in providing the right information at the right time; therefore, the most advanced B2B companies are comprehensively overhauling their commercial operations to address contemporary needs more effectively. Thus, while some studies stress the growing operational significance of LG processes (Hall, 2023), their strategic importance remains underexplored (Pullins et al., 2017; Smith et al., 2006).

3. Methodology

The research aims to investigate the key critical aspects of LG that B2B SMEs must consider in order to successfully implement the process. This topic is particularly relevant in Italy and in other economies predominantly structured around SMEs. Italy represents a compelling context for this investigation, as SMEs account for 99% of all firms (Economy Up, 2025). In recent years, these firms have intensified their investments in digital technologies, with the majority of Italian SMEs (70.2%) having achieved at least a basic level of digital intensity (European Commission, 2025). Within this landscape, the mechanical industry has long been a strategic sector of Italian manufacturing, remaining one of the most traditional and B2B-oriented industries. In 2025, it continues to represent a cornerstone of the national economy, renowned for the quality, innovation, and competitiveness of "Made in Italy" (Ufficio Studi Confartigianato, 2025).

To address the main research question, how the LG process can be implemented by B2B SMEs, a qualitative approach was adopted.. This approach is consistent with the complexity of the topic that is analyzed as it is particularly relevant for the analysis of organizational practices across different settings, providing a comprehensive description of the main features that characterize them (Ichikawa, 2017). Through the exploration of complex and varied scenarios, qualitative research provides a comprehensive

understanding and in-depth insights into the contextual factors involved (Pettigrew, 2012). In addition, we applied an exploratory research strategy that enables the examination of a phenomenon that cannot be easily separated from its context (Yin, 2009).

The primary data collection method was the semi-structured interview, which offers flexibility in exploring the topic while ensuring that all key aspects and relevant concepts are addressed. Qualitative interviews are particularly effective for investigating social and cultural phenomena, emphasizing interpretation and are widely recognized as a crucial tool for exploring the B2B context (Andersson et al., 2024).

Between September 2024 and February 2025, 20 semi-structured interviews were conducted, averaging one hour each, either in person or via Microsoft Teams. All interviews were recorded and transcribed.

To explore the research topic, two samples within the Italian mechanical context were targeted: B2B SMEs and B2B marketing agencies. The first sample allowed for an internal perspective, examining how Italian SMEs manage the LG process in practice, including their strategies, operations, priorities, and internal challenges. The second sample provided an external perspective, offering a more holistic understanding of the critical factors that SMEs must consider to ensure successful implementation, based on the experience and insights gained through daily work with their B2B SMEs' clients. By combining these two complementary perspectives, the study captures both the practical realities and strategic imperatives of LG, ensuring a richer and more nuanced analysis that accounts for multiple viewpoints (Spiggle, 2003).

The 20 key informants were purposefully selected (Guest et al., 2006). A screening procedure was applied to potential informants to validate their relevant expertise, professional experience, and familiarity with the research topic, thereby guaranteeing their ability to provide trustworthy and meaningful insights (Palinkas et al., 2015; Alvesson & Ashcraft, 2012).

Concerning the first sample (Table 1), Italian B2B SMEs, the interviewees were selected from among the heads of the Marketing or Sales functions, or a member of the company's management team.. To ensure a sample characterized by heterogeneity in the implementation of the LG process and to conduct a comprehensive analysis of the topic, companies from different geographical areas were included.

Regarding the second sample, Italian B2B marketing agencies (Table 2), the interviewees were the individuals with the greatest visibility over the LG processes carried out for their B2B SMEs' clients. The selection of interviewees was primarily based on two criteria: professional experience and established knowledge of the subject under investigation. Similarly, to ensure heterogeneity in the implementation of LG processes and to conduct an in-depth analysis of the topic, agencies operating in different geographi-

cal areas were included.

Table 1. Selected Italian B2B mechanical SMEs

N	# Key informant	Description	Location	Role of key informant
1	KI 1	X-ray tubes and protective sheaths for radiology	Milan	Chief executive officer
2	KI 2	Production and sale of alloy wheels	Brescia	Marketing manager
3	KI 3	Mold production and sheet metal processing	Turin	Commercial director
4	KI 4	Sheet metal fabrication with robotic welding	Bergamo	Marketing manager
5	KI 5	Industrial components manufacturing	Como	Marketing manager
6	KI 6	Industrial textile sewing machines production	Verona	Marketing manager
7	KI 7	Production of industrial gaskets and components	Brescia	Chief executive officer
8	KI 8	Mechanical systems for industrial filtration	Treviso	Marketing manager
9	KI 9	Manufacturing dosing and packaging machines	Milan	Marketing manager
10	KI 10	Food equipment for confectionery industry	Bergamo	Marketing manager

Source: author's elaboration.

Table 2. Selected Italian B2B Marketing Agencies

N	# Key informant	Location	Role of the key informant	Years of experience
1	KI 11	Milan	Owner	40
2	KI 12	Milan	Marketing and Communications Director	30
3	KI 13	Milan	Marketing and Communications Director	30
4	KI 14	Milan	Project manager	23
5	KI 15	Rome	Project manager	20
6	KI 16	Milan	Head of digital	20
7	KI 17	Catania	Co-founder	20
8	KI 18	Arezzo	Sole Director	20
9	KI 19	Lecce	Chief executive officer - Head of digital	19
10	KI 20	Bergamo	Project manager	18

Source: author's elaboration.

To strengthen the rigor of the study, data triangulation was applied by combining evidence from multiple sources. Alongside semi-structured interviews, information was collected from corporate websites, archival materials, reports, and other organizational documents (Dubé & Paré, 2003).

The integration of these sources enhanced both the validity and robustness of the analysis. Data collection proceeded until thematic saturation was reached, namely the point at which no new themes or insights emerged from additional evidence (Guest et al., 2006).

To explore the LG process in Italian B2B SMEs, an abductive approach was employed (Dubois & Gadde, 2002). This method is particularly valuable for developing new theoretical insights grounded simultaneously in existing literature and in empirical evidence. Abduction enables a continuous interplay between theoretical constructs and practical observations (Dubois & Gadde, 2002).

Data analysis followed a manual coding process to support a multilayered exploration of theoretical concepts (Saldaña, 2021). This approach fostered direct engagement with the data, enabling systematic comparison in line with Corbin and Strauss (2014), shifts in perspective, and the generation of diverse interpretative insights.

The coding process unfolded in three stages. First-order coding involved an inductive examination of empirical material to capture nuances and distinctive elements. In the second stage, data were grouped into more abstract categories informed by both empirical findings and existing literature, thereby linking specific observations to broader conceptual themes. The final stage established relationships among categories, integrating them into aggregate dimensions that reflected underlying patterns and interactions.

Data were analyzed iteratively, with emerging themes continuously compared with prior literature to ensure consistency, refinement, and theoretical grounding (Wolcott, 1994).

4. Findings

4.1. Reactive motivation toward LG implementation

Based on the interviews conducted across both samples, the analysis indicates that SMEs' willingness to implement a LG process typically arises from the perceived need to respond to competitors' actions.

"Sometimes companies do not have a clear objective, but feel the need to adapt to what their competitors are doing." (KI 13)

This reactive approach is often driven by the intention to adopt new channels without a clear understanding of the strategic objectives underlying LG. As a result, SMEs tend to focus on practical and immediate issues, responding to urgent short-term needs rather than developing a structured strategy for LG implementation. Instead, their attention is frequently directed toward tools and the necessity of enhancing brand awareness.

"We are focusing on increasing brand awareness to improve the visibility of the brand and products, and to reach and engage a larger B2B audience. This involves optimizing the corporate website to improve visibility and expanding content on blogs and social platforms such as LinkedIn and Meta (Facebook/Instagram)." (KI 10)

4.2. Perceived importance and actual investments in LG

The analysis of the collected data revealed that the LG process is marked by a discrepancy between the importance perceived by SMEs and the actual investments devoted to its implementation. In fact, on the one hand, SMEs perceive LG as a useful process to inform and establish an initial connection with potential customers, with the expectation of building long-term relationships.

"The main intangible goals are to strengthen our visibility and to reach potential clients seeking our solutions. This approach ensures that potential customers feel valued and informed, increasing the likelihood of them choosing us as a trusted partner." (KI 6)

On the other hand, the findings suggest that SMEs rarely invest consistently and over the long term in LG. Instead, they tend to allocate minimal budgets to LG-related marketing activities, which are often interrupted when other priorities arise.

"Leadership tends to focus on urgent operational matters, to reap the benefits of the process, investments must not be interrupted, as results emerge in the long term." (KI 19)

Furthermore, all SMEs emphasized that traditional channels remain central for meeting new potential customers.

"The main channel through which we meet potential customers is still direct contact, either by phone or at trade fairs." (KI 5)

A major reason for the lack of sustained LG implementation lies in negative past experiences with external partners, which have fostered distrust toward new collaborators who might otherwise support them in developing LG strategies.

"There is little trust in marketing experts due to past experiences, and consequently the budget allocated is minimal." (KI 11)

4.3. Misalignment between Marketing and Sales

Regarding the internal adoption of LG, SMEs reported significant challenges in strategically managing activities, primarily due to misalignment between Marketing and Sales. The analysis revealed that these two functions often pursue different objectives and lack equal recognition within

firms. Marketing is typically perceived as a support function—responsible for producing materials, managing call centers, and customer care—often delegated to junior staff with limited decision-making power and minimal digital expertise. By contrast, Sales is responsible not only for initial contact with potential customers but also for managing and closing deals, and it generally receives greater investment in training.

"It is the sales function that interacts directly with clients. For example, sales representatives meet customers and rely on marketing materials—such as presentations or videos—that support the sales process." (KI 7)

SMEs are largely aware of this imbalance and acknowledge the need to improve internal communication to ensure that LG processes are more transparent and coordinated.

"It can help enhance internal communication across departments, ensuring that everyone works toward the same objectives and moves in a coordinated way." (KI 2)

The analysis also revealed that communication issues extend beyond departments to the tools adopted internally.

"They have always used the same software or hardware, but these systems do not communicate with each other." (KI 16)

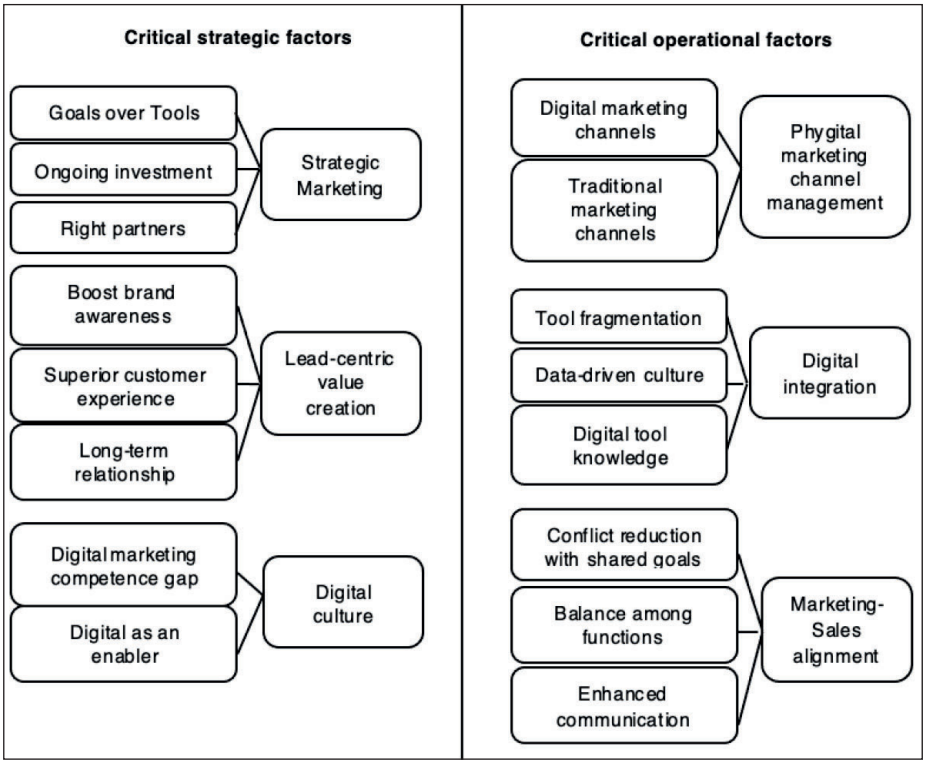
The main reasons identified for these challenges include limited knowledge of available tools and the low value attributed to data and its potential use.

"It is necessary to know which tools exist, how to use them, and how to prioritize them correctly. The utility of data is not understood." (KI 14)

5. Discussions

The results emerging from the analysis allow the identification of several critical aspects of LG. In particular, these critical aspects represent the aggregate dimensions reflecting the abductive reasoning process. The analytical process did not follow a linear path; rather, it benefited from constant alignment and iterative refinement of the aggregate dimensions based on the empirical evidence obtained from interviews and secondary data. In detail, the critical aspects of LG that B2B SMEs must consider for successful implementation can be divided into strategic factors ("strategic marketing", "lead-centric value creation", and "digital culture") and operational factors ("phygital marketing channel management", "digital integration", and "Marketing-Sales alignment"), as illustrated in Figure 1.

Figure 1. Critical strategic and operational aspects of LG



Source: author's elaboration.

5.1. Critical strategic aspects of LG

The first dimension is "strategic marketing", which comprises three themes: "goal over tools", "ongoing investment," *and* "right partners". A central challenge for SMEs in implementing LG lies in developing a goal-oriented rather than tool-oriented vision. Many firms approach the process reactively, focusing on tools or imitating competitors' actions without a clear strategic rationale. This fragmented and short-term perspective prevents the establishment of coherent objectives and structured planning. Recent studies also emphasize the strategic importance of this initial phase (Isabella et al., 2025; Järvinen & Taiminen, 2016), even though it remains underexplored (Pullins et al., 2017; Smith et al., 2006). Evidence from our research further shows that SMEs have not yet fully grasped the strategic role of LG. Another key aspect concerns the need for ongoing investment. SMEs often activate LG initiatives only in response to immediate operational pressures, allocating minimal budgets that are quickly discontinued once urgent needs are met. This reactive allocation reflects the absence of

a marketing culture, as Marketing is frequently undervalued, treated as a support function, and excluded from strategic decision-making. Early research on B2B LG also highlighted this issue by focusing almost exclusively on sales activities within established business practices (Smith et al., 2006). Ensuring continuity and sustained commitment is therefore crucial, particularly in a digital environment that requires constant adaptation and updating. Finally, the selection of appropriate partners, both internal and external, emerges as a strategic priority. SMEs often lack clarity regarding the professional skills required to manage LG effectively and remain cautious toward external consultants due to past negative experiences. Such mistrust risks limiting investment and undermining collaborative strategies that could strengthen LG processes. This issue is particularly relevant in B2B contexts, where firms operate within networks of interdependent actors whose interactions and exchanges of resources create systemic effects (Prenkert & Hallen, 2006; Snehota & Håkansson, 1995).

The second dimension is "lead-centric value creation", composed of "boost brand awareness", "superior customer experience", and "long-term relationships". For SMEs, LG is closely tied to the creation of value centered on customer needs and relationships. A primary focus is on strengthening brand awareness and reputation, as visibility and recognition are essential for positioning firms as reliable and established actors. Enhancing brand awareness not only supports differentiation but also increases the likelihood of attracting potential customers actively seeking tailored solutions. This finding is consistent with prior studies highlighting the role of LG in identifying high-value leads (Pullins et al., 2017) and with research showing that new technologies allow SMEs to improve visibility and reputation (O'Dwyer et al., 2009). From a managerial perspective, many firms now aim to implement strategic plans explicitly focused on brand awareness and LG (Osservatorio B2B, 2023). Equally important is the customer experience. SMEs strive to ensure that interactions across multiple B2B channels are consistent, informative, and responsive to evolving customer expectations. Continuous improvement in systems and practices is seen as key to fostering satisfaction and signaling attentiveness to customer needs. Finally, cultivating long-term relationships is considered critical. Customer loyalty is perceived as a central outcome of successful LG, with durable partnerships enabling competitive advantage and sustained business growth. This aligns with the relational nature of B2B contexts, where inter-organizational networks are built on relationships that enhance customer management processes (Lundin & Kindström, 2023).

The last dimension is "digital culture", which includes "digital marketing competence gap" and "digital as an enabler". The findings reveal a significant gap in SMEs' digital competences. Although marketing roles may exist, in-house expertise with digital tools is often limited or missing,

generating uncertainty and even resistance, particularly toward social media. This lack of skills prevents Marketing from integrating effectively with product specializations and represents a major barrier to the strategic use of technology in LG. At the same time, digitalization should increasingly be recognized as an enabler. Many firms already use business intelligence and data-tracking tools, but their application remains restricted to operational monitoring rather than strategic decision-making. Viewing digital technologies as enablers rather than mere tools is therefore essential. By embedding digital into organizational processes, SMEs can improve efficiency, support data-driven decision-making, and ultimately enhance LG effectiveness. These insights are supported by existing literature, which emphasizes that employee commitment, training, and adequate IT infrastructure are critical to overcoming such difficulties and ensuring effective implementation (Kolbe et al., 2022).

5.2. Critical operational aspects of LG

The first dimension is "phygital marketing channel management", composed of "digital marketing channels" and "traditional marketing channels". SMEs continue to rely heavily on physical channels for LG. Word-of-mouth remains the most powerful driver of new business, as satisfied customers frequently recommend solutions to peers or reconnect with suppliers when moving to new firms. Trade fairs also play a pivotal role, serving as hubs for networking, relationship building, and market visibility. Participation in national and international exhibitions enables firms to showcase products, strengthen positioning, and secure valuable contacts. Direct interactions — whether through phone calls, on-site visits, or demonstrations in dedicated showrooms — are still perceived as highly effective in fostering trust and generating business opportunities. Alongside these traditional practices, digital channels are increasingly used to enhance visibility and engagement. Corporate websites function as entry points for potential customers, while LinkedIn is viewed as the most effective social platform for awareness building. Email marketing, newsletters, and online publications further support communication, particularly when tailored with case studies or follow-ups after events. Recent literature confirms that B2B firms are compelled to attract and engage potential customers through digital marketing channels such as websites, emails, and social media (Isabella et al., 2025; Järvinen & Taiminen, 2016).

The second dimension is "digital integration", composed of "tool fragmentation", "data-driven culture", and "digital tool knowledge". A central challenge for SMEs lies in the fragmented use of digital tools. Companies often adopt multiple platforms for individual products or activities, yet

these remain disconnected and fail to communicate with each other. This lack of integration undermines efficiency and prevents the development of coherent LG processes. Integration across channels—not only among digital platforms but also between digital and traditional ones—has been identified as a critical challenge in literature. SMEs frequently lack managerial expertise and technical know-how to harmonize channels, and the seamless use of multiple channels by customers adds further complexity to monitoring and coordination. At the same time, relying on a single source for data collection is increasingly rare and may prove problematic in LG contexts (Baecke & Van den Poel, 2012). A closely related issue is the limited diffusion of a data-driven culture. Although data are potentially powerful, it is rarely collected systematically, and when tracking occurs, it is often incomplete or poorly configured. As a result, firms struggle to interpret data outputs and fail to exploit them for strategic decision-making. Finally, SMEs display insufficient knowledge of digital tools. Many are unaware of the range of solutions available, how to use them effectively, or how to prioritize them according to their needs. This lack of digital competence constrains the capacity to leverage technology as an enabler of LG.

The third dimension is "Marketing-Sales alignment", composed of "conflict reduction with shared goals", "balance among functions", and "enhanced communication". A critical aspect of LG in B2B SMEs is the coordination between Marketing and Sales. These functions often operate with different objectives and approaches, generating tensions and inefficiencies in managing potential customers. This issue is well documented in the literature, where research on B2B LG has historically focused primarily on sales activities and their relation to widely adopted business practices (Smith et al., 2006). More recent studies, however, emphasize that marketing experts need to collect detailed information on potential customers to better understand their needs, buying influences, and purchasing processes (Rodriguez & Peterson, 2012). Ensuring shared goals between Marketing and Sales is essential to reduce conflicts and foster collaboration, enabling both teams to work toward common outcomes. Achieving a balance in responsibilities and recognition is equally important. Marketing must not only provide content, insights, and communication materials to support sales activities, but also plan LG strategically at the organizational level. Sales representatives remain central as the primary actors interacting directly with potential customers, a role confirmed by prior research (Smith et al., 2006). Strengthening internal communication between Marketing and Sales enhances transparency and coordination across the firm. This integrated approach ensures synergy between the two functions, enabling a more seamless and efficient LG process, while improving the overall customer experience and organizational performance. Importantly,

such alignment can help prevent a large proportion of collected contacts from remaining unreached by sales representatives (D'Haen et al., 2016; Sabnis et al., 2013).

6. Conclusions

This research aims to examine the critical aspects of LG that B2B SMEs must address to successfully implement the process. The originality of this study lies in identifying three main strategic aspects (marketing strategy, lead-centric value creation, and digital culture) as key dimensions to be considered when adopting and developing an LG process. In addition, the research highlights three critical operational aspects (phygital marketing channel management, digital integration, and Marketing-Sales alignment) that emerge as essential for the effective execution of LG.

This study contributes to filling some gaps in existing literature. First, only a few studies have investigated how digital marketing channels can be leveraged by firms to strengthen relationships with potential customers (Schepis & Kingshott, 2024). The literature remains scarce in terms of research exploring how suppliers and customers perceive and engage within networks (Munksgaard et al., 2024). The present study emphasizes that SMEs, at a strategic level, must foster a digital culture that supports the integrated management of digital technologies, overcoming tool fragmentation and the lack of coordination across both digital and traditional channels. Second, prior research has highlighted the lack of a strategic approach to LG in B2B contexts and the persistent misalignment between Marketing and Sales (Pullins et al., 2017; Smith et al., 2006). This study addresses this gap by underlining that the introduction of a marketing-driven strategic orientation is essential for the effective adoption of LG. At the operational level, moreover, alignment in terms of activities, communication, and role balance between Marketing and Sales has become indispensable.

The research also offers relevant managerial implications. The identification of both strategic and operational critical aspects provides marketing managers with a framework to elevate the strategic relevance of LG processes and to better balance power dynamics with the sales function. Furthermore, these aspects can serve as a practical checklist for SMEs, enabling them to assess their readiness to implement an LG process.

In addition to these contributions, the study acknowledges some limitations and directions for future research. The empirical focus is on the Italian context, suggesting that cross-country comparative studies could provide additional insights. Similarly, as the analysis is centered on the mechanical sector, future research could extend the investigation to other industries. Moreover, this study is based on qualitative interviews. Future investiga-

tions could expand the sample size and employ in-depth case studies to explore in greater detail the characteristics of the identified critical aspects and potentially uncover additional factors relevant for SMEs. Finally, this research does not consider the impact of specific emerging technologies such as Artificial Intelligence (AI). Future studies could explore how AI influences the overall process and, more specifically, the activities related to LG within the B2B context. Indeed, AI is considered a core competence for ensuring long-term competitive advantage (Sahoo et al., 2024), as it enables firms to process large datasets, generate insights into customer and partner behavior, eliminate operational inefficiencies, and mitigate risks (Mikalef et al., 2023). AI supports the alignment of partner needs with internal capabilities, facilitating improvements in reducing delivery times and enhancing responsiveness to market dynamics (Sahoo et al., 2024). Additionally, Generative AI (GenAI), a rapidly evolving application of AI, is transforming marketing and extending its influence across various sectors, enhancing organizational performance and providing strategic competitive advantages (Kumar et al., 2025).

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MANAGING COMPLEXITY IN SMES

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Abstract

Purpose. *The paper analyzes complexity as a critical factor for the survival and development of SMEs, proposing the adoption of management control systems — within the legal framework of «adequate organizational arrangements» — as a lever to mitigate and manage it proportionally to the nature and size of the enterprise.*
Design/methodology/approach. *The study employs a systemic conceptual framework: it clarifies the construct of complexity (both technical and mental), identifies its causes and evolution, and maps its links with the organization and the environment. It then translates these principles into an operational path for SMEs: an initial check-up of existing tools, a gradual and combined selection of control levers, and the application of the proportionality principle.*
Findings. *The study shows that adopting management control systems proportional to the size and nature of SMEs enables timelier detection of economic and financial imbalances, improves the quality of managerial decisions, and reduces the risk of business crisis. The analysis also indicates that a systemic, graduated approach to control levers facilitates practical implementation, minimizes organizational costs, and strengthens business continuity, employment, and protection of invested capital.*
Practical and Social implications. *For SMEs, adopting «adequate arrangements» means making the detection of economic and financial imbalances more timely, improving decision quality, and reducing the risk of crisis, with positive effects on business continuity, employment, and the preservation of invested capital. Success also requires cultural and leadership interventions to overcome organizational resistance and skill gaps, all in line with the availability of financial resources.*
Originality of the study. *The paper integrates the regulatory framework on «adequate arrangements» with a systemic and operational managerial perspective, offering SMEs a flexible, scalable, and realistically implementable behavioral model. Its originality lies in demonstrating how knowledge, rationality, and flexibility can be translated into a proportionate management control design capable of transforming apparent complexity into actuality.*

1. Introduction

This contribution stems from a prolonged observation of business dynamics and from the conviction – matured in the field – that one of the main obstacles to development, and at times to the very survival of organizations, lies in complexity: a viscous phenomenon that stretches decision-making steps, blurs priorities, weakens the perception of cause–effect relationships, and ultimately disorients entrepreneurs and managers across sectors and sizes. In light of this evidence, we deem it necessary for scholars to analyze the phenomenon, isolate its variables, and propose actions capable of clarifying its dynamics, laying the groundwork for sustainable solutions. The inquiry is all the more relevant the more it is connected to the systemic nature of the firm and its operational essence, a theme not yet fully internalized by economic actors, resulting in a cultural lag that adversely affects development prospects and even the continuity of business entities.

Once the notion of complexity is defined, it must be situated within the context of small and medium-sized enterprises, where resource scarcity – particularly of intellectual capital – makes it more difficult to introduce the set of methods, data, and capabilities that explain processes, reduce informational opacity, and realign management with a competitive environment that the firm, in most cases, cannot shape but only interpret. Hence, the need for adequate and proportionate solutions, consistent with organizational variables and with economic constraints typical of smaller scales, such as to maximize effectiveness without generating coordination costs that exceed the benefits.

Translated into operational terms, the issue leads to the adoption of a management control system that today finds a concrete legal reference in the «adequate arrangements» introduced in 2003 for joint-stock companies and extended to all companies by the Business Crisis and Insolvency Code (Legislative Decree No. 14/2019). Implementing this system raises not only economic problems – owing to the investments required in organization, technologies, and training – but also organizational, technical and, above all, psychological issues, as it entails a paradigm shift that touches habits, roles, and responsibilities, leading us to consider that we are faced with a veritable "cultural revolution" (Manca, 2025). Hence the need for a gradual path, grounded in the «principle of proportionality» which the legal framework allows without prescribing precise criteria, and within which the management sciences can offer a decisive contribution by correlating, case by case, control tools to the specific circumstances.

It must also be said that the technologies used to support decision-making processes are increasingly sophisticated, to the point of replacing human beings in various domains, something that is already happening

and will occur even more with artificial intelligence. Consequently, the adoption of control systems will become progressively easier and the tools themselves increasingly intelligible; moreover, data processing times have already declined markedly compared with the past, as has the time needed to handle ever larger volumes of data. What will not change, however, is the need for someone (certainly not a machine) to understand the meaning of the information that emerges from management control and to be able to use it to feed decision-making processes; therefore, the problem will arise of sourcing the skills suited to performing this task, an objective that appears anything but simple in smaller enterprises.

From a methodological point of view, finally, it is important to note that this paper remains – actually – on a conceptual and theoretical level, since the normative references are recent and it is not yet possible to have sufficient data to carry out an empirical investigation.

2. Illustration of the Concept of Complexity

To understand the concept of complexity, it is helpful to start from the term's etymology, deriving from complexus, the past participle of the Latin verb complectior («to entwine together»), which evokes the union of multiplicities. This root points to a cohesive plurality, and indeed, according to the Treccani Encyclopedia, complexity represents a «qualitative characteristic of a system». In more detail, it is the manner of being or appearing that makes the orientation toward, or understanding of, a phenomenon difficult, primarily due to depth, meticulousness, arrangement, or a necessarily intricate unfolding, though at times also to disorder. Moreover, it is helpful to distinguish between «complex» and «complicated»: the latter indicates what is confused or difficult to interpret, whereas complexity implies a set of elements coordinated with one another and oriented toward common objectives (Cravera, 2021, p. 20).

The parts of a complex system display i) interconnections, that is, causal ties that produce relations of cause and effect (Snowden & Boone, 2007); ii) a certain numerosity and heterogeneity, which increase the difficulty of understanding and managing the whole; iii) variability, typical of nonlinear systems, which renders their evolutions unpredictable. Within this framework, there coexist a tendency toward disorder, connected to the improper handling of variables; a technical-operational content, due to the plurality of elements; and an intertwining of internal and external relations that characterises every system. Complexity can be distinguished into a "technical" component, linked to objective elements, and a "mental" one, generated by subjective perceptions (Johnson-Laird, 1988). It follows that complexity is not only an intrinsic property but also the outcome of the

observer's perspective (Comuzzi, 2024, p. 16). The two components interact in determining the system's behaviour and its intelligibility: the more subjectivity prevails, the greater the disorder and, with it, the difficulty of management. It is therefore indispensable to identify interpretive tools capable of reducing apparent complexity and bringing it back to an effective complexity, a more controllable form. Understanding the causes of complexity is the first step toward reversing its trajectory (Simon, 1962; Geraldi et al., 2011): acting on the symptoms while neglecting the roots of the problem inevitably leads to the recurrence of the same conditions.

The study of complexity has been undertaken in multiple fields of knowledge: in physics, in relation to the predictability of systems; in philosophy and the human sciences, with attention to cognitive and ethical aspects; in sociology, with reference to interactions among individuals and groups; in computer science, for the computational dimension; in biology, for the internal relations of living systems; in psychology, for cognitive and emotional processes; and in economics, for organisational and decision-making implications. In business economics, in particular, the topic became central as early as the last century, and more recently it has focused on analysing the link between complexity and the systemic character of the firm (De Toni & De Zan, 2015; D'Amato & Tosca, 2016; Morin, 2017).

A common element across these approaches is the relationship with System Thinking, which regards complexity as a constitutive property of the system (Senge, 1990; Flood & Romm, 1996; Midgley, 2002; Meadows, 2019). This perspective aims to integrate people, goals, processes, and performance; to manage uncertainties, risks, and opportunities; and to relate the system to the environment in which it operates. It enables: i) the subdivision of the system into interdependent but analysable subsets; ii) the interpretation of relations and consequences, including unpredictable ones; iii) the coordination of the actions of individual elements through regulatory instruments; iv) the consideration of the cascading effects of every intervention; v) the recognition of the constant influence of the external environment. This vision makes it possible to address organisational complexity and to transform it from an obstacle into a resource, rendering it manageable through knowledge, coherence, and systemic vision.

3. Complexity in the Context of Small and Medium-Sized Enterprises

Suppose it is true – as it is – that complexity has a systemic connotation. In that case, it can be regarded as a typical corporate property, intertwined with other characteristics to which the literature refers (Zanda, 1984, p. 218 ff.). We believe, however, that this very quality, more than many others, makes it possible to read the firm in its essential features and, consequent-

ly, to govern it with appropriate tools (a circumstance less common than it ought to be). A holistic view applies to any corporate organism, since the "classic" scheme of its functioning – acquisition of production factors, their combination, and external transfer of the result – recurs in every reality, regardless of size, sector, nature of the economic entity, legal form, and other particularities. This does not imply, however, that complexity manifests itself with identical connotations: it varies markedly with the nature and size of the enterprise, two concepts on which it is worth dwelling.

By the «nature» of the enterprise we mean the set of its intrinsic characteristics: the legal form (e.g., corporate type), the sector to which it belongs (more or less specialised and technologically advanced), the chosen production model (make-to-forecast or make-to-order), the type of clientele (individuals, businesses, public entities), the dynamism of the environment (capable of influencing many variables and complexity itself), any seasonality (tourism being the prime example), geographic scope (often correlated with size), membership in a group (with the resulting operational constraints), the business model (deriving from competitive choices), and the breadth of the product range (with effects on organisation). In short, a set of characteristics—non-exhaustive and indeed amenable to integration—that confers on the firm a degree of originality such that it is different from all others, even when they may at first sight appear similar (Coda, 1988, p. 72 ff.; Mollona, 2008).

As for «size», one may refer to the parameters adopted in the European Union – turnover, number of employees, and total assets – or consider additional measures, such as the level of fixed costs, the amount of equity, or certain "margins" derived from the reclassified income statement (value added, EBITDA, Economic Value Added, and others). It should be noted, however, that such magnitudes, though apparently objective because quantitative, do not always correspond to equivalent conditions of complexity (Gorzeń-Mitka, 2015): one encounters SMEs with considerable managerial difficulties and, at times (more rarely), large enterprises in conditions that are relatively easier than those of smaller firms. This is why, although more discretionary, reference to the nature of the activity often appears better suited to capturing an enterprise's level of complexity, while remembering that this is a relative and partly debatable concept.

Suppose we view the foregoing in light of the components of complexity recalled in the previous paragraph. In that case, we can say that size acts as a generally objective element from which a "technical" complexity descends, due to the increase in the number and magnitude of variables at play; the nature of the activity, by contrast, gathers distinctly subjective elements, such that the "human" characteristics of the firm are reflected therein, to the point of making perceptible the imprint of the entrepreneur and, in extreme cases, an almost total identification. This leads, on the one

hand, to the – if you will, paradoxical – effect whereby complexity seems to increase as size decreases, but only because many firms in that range are little inclined to systemic thinking, poorly endowed with competencies (also due to a lack of resources to acquire them), and afflicted by behavioral problems: in essence, whereas in large companies a proper approach to entrepreneurial activity tends to reduce complexity, in smaller ones the lack of such an approach amplifies it. On the other hand, this assigns to complexity the rank of a veritable «factor of crisis» (Guatri, 1986, p. 14 ff.; 1995, p. 44 ff.): that is, an element potentially capable – with a probability that varies from case to case – of damaging the corporate whole to the point of leading it to a pathological state, an eventuality that materialises when complexity degenerates into chaos and management (or the economic actor directly) can no longer keep it under control.

Ultimately, we witness a contrast between an "objective complexity", which has its roots in the environment external to the firm (hardly modifiable) or arises internally through the action of variables that are not governable, often traceable to the stakeholder area; and a "subjective complexity", which springs mainly from elements internal to the corporate system and therefore falls within the manager's sphere of influence, centering on the stewardship of the organisational body. In this perspective, the firm's organisational aspect becomes crucial, encompassing not only the ways in which human resources are "deployed", but also – and perhaps above all – their behavioural profile, relational dynamics, competencies, and their very essence as "human". Human capital, in fact, has always been and continues to be (despite the advent of artificial intelligence) the production factor underpinning a firm's ability to achieve or fail to achieve its objectives. It is no accident that the «organisational arrangement» has been the object of scientific and regulatory attention well before the explicit provision of art. 2086 of the Italian Civil Code: its central role was perceived from many angles to the point of meriting the legislator's interest.

These considerations find confirmation in an analysis we have recently conducted (Manca, 2025, p. 253 ff.), in which – without any claim to exhaustiveness – numerous traits of not big enterprises were highlighted, grouped into four broad categories and, within each, distinguished into positive and negative aspects. The categories encompass characteristics of a structural nature, referring to long-term (or strategic) settings pertaining to the combination of the most relevant resources; dimensional nature, linked to variables typical of the specific size and reflected in equity, investments, headcount, and turnover; informational nature, correlated with the production and transmission of information and, more generally, with the creation and diffusion of knowledge (Audretsch & Belitski, 2021); and behavioral nature, connected to psychological, emotional, relational, and conduct-related aspects that induce – sometimes unwittingly – certain ac-

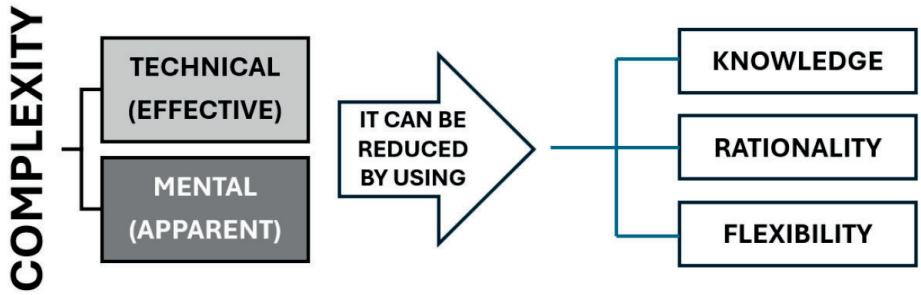
tions not always rational or defensible. It is precisely this latter category that proves the most crowded, underscoring the breadth and heterogeneity of the human conduct dimension, which often ends up increasing the physiological complexity of the corporate organism (Cravera, 2021, p. 82 f.). It follows that the solution, with measured optimism, inevitably involves a change in mindset: first, acquiring the proper awareness of what a firm is, and then deciding to treat it according to its peculiar needs.

Finally, these reflections make it possible, on the one hand, to delineate the contours of the phenomenon by framing its various components, and on the other, to identify its causes and trace its evolutionary path; as well as to make explicit the relationships among the constituent variables and clarify how interactions are configured. Nevertheless, the analysis remains incomplete unless the possible future developments of this systemic aggregate are explored: it is necessary to study, on the one hand, how it relates to the environment in which it arises and, on the other, in which directions it may evolve in the short and medium term, to identify what interventions are feasible to mitigate its undesirable effects. The firm is, in fact, a goal-directed system; thus, the ability to foresee its evolution underpins the possibility of steering its course, which – in the case examined – coincides with value creation, the prerequisite for maintaining a condition of economic viability and for safeguarding the investment made by the entrepreneur, whether individual or collective (Rappaport, 1999; Porter & Kramer, 2011).

4. Factors for Reducing Complexity

The analysis of complexity – properly broken down into its components, the factors that feed it, its ties to context, and the dynamics by which it evolves over time – is indispensable not only for understanding the object of inquiry but, above all, for approaching it lucidly and mitigating its effects, since complexity, by definition, cannot be eliminated (Holland, 2006). It is therefore advisable to begin with three complementary and interwoven levers: knowledge, which can bring to light what is opaque; rationality, which orders, selects, and structures; and flexibility, which enables adapting responses to partially unpredictable situations (the relationship between these factors and complexity is illustrated in Fig. 1).

Fig.1. The components of complexity and the reduction factors



Knowledge reduces the "technical" share of complexity through competencies that untie operational knots and, above all, allows us to measure with greater precision magnitudes and phenomena which, if left in the shadow cone of the unknown, appear boundless and generate fear or impotence (Davenport & Prusak, 1998); hence a non-negligible psychological effect, because the sense of insurmountability diminishes and the conditions for more lucid and proportionate decisions are strengthened. In order for knowledge not to degenerate into a chaotic accumulation of data, an information system is required: material, immaterial, and human resources dedicated to collecting data, transforming them into useful information, and delivering them to those who truly need them, balancing reliability and timeliness, synthesis and completeness, and choosing effective communication channels without needlessly increasing operating costs.

Moreover, the technology embedded in an information system – and in particular artificial intelligence in its most recent forms – can enhance managerial rationality by generating, within short timeframes, large quantities of information, identifying hidden patterns, and suggesting scenarios; however, it does not replace the person, their intuitions, the sensitivity matured through experience, and the responsibility for choices: systemic complexity arises to a large extent from the unpredictability of human conduct, from the interaction among interests, emotions, and contexts, and no machine, programmed by human beings, can claim to govern it entirely at the highest levels. Technology, in short, is a capacity multiplier. However, it remains a tool and as such requires criteria of use, interpretive skills, ethical safeguards, and an organisational framework that channels its power toward ends consistent with strategy.

The second element is rationality, which imposes order and logic to simplify complex phenomena just enough to make them manageable. It avoids confusing comprehensibility with the claim of always solving them and prevents the opposite excess of undue reduction (Pinker, 2021, p. 278). Rationality also means project-mindedness: simulating alternative scenari-

os, planning actions with multiple options, adopting a long-term view, and confronting contextual variables – economic, regulatory, technological, and social – that ignorance or underestimation of causes harm and frustrates objectives, even when these have been formally clarified and shared. Hence, there is a need for ex ante forecasting and assessment tools, metrics that allow comparison of alternatives, checkpoints along the way, and corrective mechanisms to prevent useless persistence in plans that prove inadequate.

The third element is flexibility, understood as the capacity to adapt to different, changing, and partly unpredictable situations (Shimizu & Hitt, 2004). Operationally, it translates into problem solving: knowing how to define the problem starting from symptoms and reading even weak signals; developing realistic alternatives; assessing their consequences by weighing sacrifices and benefits; choosing the best solution given the resources available; implementing it with discipline and measuring the effects (Mayer, 2013; Ackoff, 1974). For this to occur, strategies proportionate to the aim are needed, along with careful management of the relationships among the people and groups initially called to think and then to act, to generate coherent, "tailor-made" solutions. It is often useful to adopt dedicated procedures, such as behavioural models – a systemic set of method-guided actions capable of drawing a recognisable and shareable operational path – without rigidifying the organisation into schemes that, when the context changes, lose relevance (Simon, 1955; Ajzen & Fishbein, 1980). It remains true, however, that the higher and more shifting the complexity, the harder it is to intervene with certain outcomes; moreover, the mental models that provide stability and identity tend to resist, making the internalisation of new interpretive and operational schemes laborious.

In constructing models, one must beware of «simplifying thinking», which demands certainties and linearity in relation to phenomena that cannot be reduced to simple measures (Morin, 2017). After decades in which reductionist approaches have dominated many disciplines – economics included – their limits have emerged clearly, prompting consideration of the non-linearity of relationships within systems and the continual feedback between system and context. Complexity, in essence, is not simplified by decree: tools must be shaped to the problems; the more articulated the problems, the more articulated the governing actions must be, while still maintaining a hierarchy of ends and evaluative criteria that prevent action from becoming scattered (Cravera, 2021). It is therefore necessary to introduce interpretive devices capable of recognising feedback, thresholds, feedback effects, time delays, and emergent phenomena, in order to avoid hasty conclusions based on spurious correlations or on time series that are too short.

There is also a decisive variable: time. It is not enough to identify the solution if it is not implemented promptly, because in the meantime, the phenomenon evolves and the intervention loses effectiveness (Cinquini, 1994). In the governance of complex systems, the time factor must be considered in the duration of events and in the speed with which they manifest, in the delay with which actions produce effects, in the rhythm of the activities that compose them, in the periodicity that enables less disruptive planning, in the forward-looking valuable vision for evaluating ex ante the outcomes of alternatives, and in the variability of effects, sometimes constant, sometimes changing in intensity and amplitude over successive periods. The temporal dimension thus becomes a parameter of design, execution, and control, imposing a discipline of the calendar that reduces frictions, accumulations of delays, and counterproductive oscillations. It suggests the use of intervention windows in which the organisation can obtain the maximum result with the minimum disturbance to the system.

To confer rationality on management, increase visibility over the future, optimise the use of resources, order activities, and reduce overall risk, it is helpful to adopt management control: an operational system (Airoldi, 1980) that defines objectives (planning), carries out the planned actions (execution), verifies variances and results (control), and uses the information collected to feed subsequent decisions (feedback) (Anthony, 1967). This is not only a matter of charting a common course, but also of evaluating each decision by comparing costs and benefits. This includes qualitative variables that are not monetisable by nature yet are essential for estimating effects on the enterprise as a whole: internal climate, organisational quality, reputation, and consistency with declared values. Since complexity is a multidimensional phenomenon, economic value represents one dimension among others; comparison requires translations into terms of value that allow different perspectives to be combined, with the awareness that the centrality of the human element introduces margins of subjectivity that cannot be eliminated but can be managed through transparent procedures.

For management control to work, it requires traceable metrics, attention thresholds, periodic verification cycles, and a shared language that makes numbers intelligible without reducing reality to mere calculation. It also requires an informational architecture that ensures coherence among data, processes, and responsibilities, so that each actor organises their contribution within a chain that leads from the recorded fact to the decision and from the decision to the action. In designing such an architecture, it is prudent to distinguish between what is indispensable to measure and what is merely interesting. This approach helps avoid redundant indicators, favours readable dashboards, and provides moments of qualitative listening that integrate, without contradicting, quantitative evidence.

On the organisational plane, management control requires a leadership

style capable of building team spirit. In a team-like organisation, the alignment of system elements, in fact, strengthens causal links. It fosters a climate capable of facing ambitious challenges and overcoming difficulties that would otherwise appear insurmountable. Leading means guiding the group in line with the objectives and the characteristics of the people called upon to achieve them: personality, motivations, aptitudes, competencies, and other variables that help in understanding their psychology and behaviour. From this derives a style that valorises human resources while orienting action toward corporate ends, clarifies priorities, eliminates ambiguities, tends to interdependencies, safeguards organisational learning, and promotes accountability, so that the system not only executes but improves while executing. All the more so in contexts where roles and skills are hybridised, leadership must know how to combine direction and listening, a stable framework and operational freedom, incentives to achieve results and recognition of effort.

Effective leadership also knows how to calibrate the degree of process formalisation: too much rigidity stifles initiative and slows the organisation; excessive discretion produces uncontrolled variability and strains coordination. The right balance lies in defining a few straightforward rules, explicit responsibilities, short decision flows, and escalation mechanisms that make it possible to resolve bottlenecks quickly while preserving consistency with objectives. Within this equilibrium between rule and adaptation lies the concrete possibility of reducing the complexity perceived by actors, freeing energy for activities that generate value.

From the above, adopting management control is the privileged path for configuring «adequate arrangements» and reducing complexity, with the awareness that the operations undertaken will affect the quality and magnitude of performance. What remains is to assess which configurations – or, more precisely, which tools – are appropriate for a small or medium-sized enterprise, in light of its size, organisational structure, internal culture, and sector of operation. The next step will involve outlining criteria for selection, conditions of feasibility, and adoption costs to propose a set of proportionate and modular solutions. These solutions should accompany the enterprise on a path of continuous improvement without introducing additional complexity that would, paradoxically, nullify the benefits being pursued.

5. The Usefulness of «Adequate Arrangements» in Managing Complexity

At this stage, it is appropriate to focus on instruments that can concretely assist small and medium-sized enterprises in containing complexity and channeling them into more orderly and conscious management paths, while bearing in mind that the firm is an organism involving people and capital to

be safeguarded. From this perspective, the relatively recent provision contained in the aforementioned Legislative Decree no. 14/2019 is valuable, as it offers both an operational and a regulatory point of reference.

Starting from the opening tenor of the rule, it is necessary to clarify what is meant by «organisational, administrative, and accounting arrangement» and, correspondingly, by «adequacy» in relation to the parameters laid down by the legislature. We have already discussed the second notion, linking it to the theme of complexity; we shall therefore focus on the notion of «arrangement», then articulate it along the three directions indicated by the law and subsequently bring them back to systemic unity.

«Arrangement», in itself, is an abstract concept that refers to the position an object assumes within the context in which it is called to move and, therefore, to the necessary ability to adapt to changes in the surrounding environment, which may be natural, physical, social, or economic. What is relevant here is the economic context in which enterprises operate and which the Italian Civil Code invokes when it requires directors to put in place «an "organisational, administrative, and accounting arrangement»: the firm, a dynamic system par excellence, must adapt to emerging needs and to the internal and external variables that change incessantly. The «arrangement» can thus be defined as the configuration of predominantly immaterial elements, of variable complexity, structured so that they operate at their best within the context of economic activity; it is not only a matter of the objects as such (how many and which), but of their configuration (how they are arranged) according to a method that guides their placement and functioning. Under the law, we may have:

- An «organisational arrangement», namely the disposition assumed by the people who operate within the firm, depending on the roles and tasks assigned to them, their reciprocal relations, and the modalities established for the execution of the operations within their remit. In other words, it is the combination of: i) the subjects who, in various capacities, work for the enterprise; ii) the positions occupied in the corporate hierarchy, regardless of the specific professional profile (Mintzberg, 1983; Galbraith, 1973); iii) the procedures adopted for the performance of tasks; iv) the tools – also immaterial – that facilitate the activities carried out by members of the organisation, i.e., the operating systems.
- An «administrative arrangement», namely the disposition of resources, people, means, and procedures that support decision-making at all levels and in all business processes: from activities overseeing the operating cycle (order management, clientele, collections and payments) to those of a strictly legal nature (taxation, debt collection), from the representation of results (financial statements and accounting situations) to the forecasting and simulation of future conditions (budgets, cost and price calculations).

• An «accounting arrangement», namely the disposition of people, means, and procedures aimed at recording business events – both internal and external – and translating them into information on management performance. This stands in an instrumental position with respect to the «administrative arrangement», which it continuously supplies with accounting data flows destined for various economic–managerial analyses.

The configuration of «arrangements» should follow analyses designed to verify the presence and adequacy of the necessary instruments, taking into account what already exists; but to move from the "static" phase of predominantly theoretical preparation to the "dynamic" phase of the actual functioning of safeguards, it is necessary to measure their «adequacy» with respect to the reference context, which the rule identifies in the «nature and size of the firm» (see, on this point, paragraph 3 above). Added to this is what is established by the second part of Art. 2086 of the Italian Civil Code, which entrusts the arrangements also with the function of «timely detection of the business crisis and the loss of going concern»: it follows that companies are obliged to equip themselves to prevent or, at the very least, to ascertain in time any pathological states. The relevant regulations specify that the «arrangements» must make it possible: (a) to detect any imbalances of a patrimonial or economic–financial nature, relative to the specific characteristics of the firm and the activity carried out; (b) to verify the sustainability of debts and the prospects for going concern at least over the following twelve months. This implies, on the one hand, procedures for controlling and monitoring the firm's values – costs, liquidity, contributions from the various sectors – and, on the other, the capacity, typical of «adequate arrangements», to set management according to a logic consistent with the systemic and investment nature of the firm.

It follows that «adequate arrangements» share the premises of management control: equipping oneself with this instrument means configuring the organisation, administrative activities, and measurement systems – accounting and otherwise – to comply with the law and, above all, to increase, often significantly, the probability of entrepreneurial success (Manca, 2023). Management control, as already noted, is the operating system that confers rationality and order on business activity, without sacrificing the flexibility necessary to achieve satisfactory results and to remunerate invested capital appropriately; it is, in essence, the instrument that makes it possible to counter the complexity inherent in the firm, provided that certain basic conditions are present that enable its actual operational translation; otherwise, it is destined to remain mere theoretical elaboration or a statement of intent.

Once a control system «adequate» to the specific case has been set up, management can devote itself to developing or adopting a behavioural model: a set of rules and procedures that enable complexity and thus management to

be addressed according to a steady method. However, steady does not mean deterministic or invariable; instead, it guides the logical pathways that lead to a range of solutions among which one can choose the most appropriate. In a context that changes continuously and is highly unpredictable, it would be illusory to rely on static approaches: a dynamic framework is needed, capable of governing uncertainty rather than suffering it. It is not, therefore, a matter of providing pre-packaged solutions or more or less miraculous "recipes", but of placing in the entrepreneur's hands a modus operandi that, like a compass, orients the journey through complexity by combining analytical discernment with prompt decision-making.

The provisions concerning the establishment of «adequate arrangements» and all the operational implications just discussed are – obviously – of general scope, entailing their applicability *erga omnes*; the only (yet far from trivial) problem lies in the fact that the universe of firms is extremely variegated, which may make it quite difficult to comply with the letter of the law. This is because the rule applies to situations that can be very distant from one another and are thus ill-suited to homogeneous treatment. Easing the task, however, is the rule itself, which resorts to a well-known legal construct, namely the «principle of proportionality», according to which the «arrangements» must be appropriate to the nature and size of the company, as previously stated.

For this reason, it becomes quite evident how important it is to find the solution best suited to the individual firm, in relation to the technical, organisational, and financial problems that may arise, and how useful the principle of proportionality can be in this regard. Its application thus appears to be a necessary step in confronting complex phenomena, since the reaction to complexity (and the tools used for the purpose) – as well as complexity itself – changes with the contexts in which it develops, making particularly arduous the task of configuring a management-control system suited to the firm when viewed in dynamic and evolutionary terms.

6. Conclusions

Complexity is a phenomenon that forms part of our daily lives, and firms as social systems cannot be exempt from it. At the same time, the systemic connotation of the phenomenon and of the firm itself allows it to be investigated and addressed using tools that are by now well-known and amply tested across various scientific domains. To proceed, however, it is necessary first to define this phenomenon clearly in its essential features and then to devise the actions deemed appropriate – if not necessary – to oppose it. In particular, rationality (and with it planning), knowledge, and flexibility can be effective factors in reducing complexity, provided that the

causes that generated it and the evolutionary dynamics that might alter it are first identified. A way to counter such a situation is suggested by a legal rule (Article 2086 of the Italian Civil Code, as amended by Legislative Decree No. 14/2019) that provides for the establishment of so-called «adequate arrangements», which, upon closer inspection, rest on the same premises as a management control system; adopting the latter would therefore at once mean complying with the legal requirement.

Granted these premises, difficulties may arise when one seeks to confront complexity in a small or medium-sized enterprise, which exhibits peculiarities that place it in a position of fragility with respect to competencies, investable resources, and the capacity to manage change. Bearing in mind how hard it is even to imagine a cultural transformation of this kind – yet one that now appears unavoidable – for firms of these dimensions, we have briefly dwelt on the technical tools that can be used to equip companies differing in nature and size with a management control system aligned not only with the letter of the law but also to pursue a durable condition of economic viability that allows the investment made in a productive concern to bear fruit. Of considerable help in this endeavour is the principle of proportionality long practised in law, which, when applied to firms, calls precisely for equipping them with tools suited to their particular characteristics, to avoid overburdening them (from every standpoint) while also steering clear of furnishing them with means that may prove insufficient.

The conclusion we have reached is that tailoring tools to specific needs is not particularly difficult, provided one has a clear grasp of the problems to be addressed and the resources (both financial and human) to devote to these activities. What seems far more arduous is endowing the entrepreneur (whether individual or collective) with the culture needed to run a corporate organism, which entails assimilating certain fundamental concepts such as systems thinking, a long-term outlook, and consideration of the surrounding environment. Only with such a change could the mental models now crystallised in the management of small and medium-sized enterprises be altered – models that prevent them from being run as they deserve – thereby projecting these realities toward a future less uncertain because more visible, and toward a complexity that, from «apparent», might be scaled back to become simply «actual».

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GENDER EQUALITY STANDARDS: EVIDENCE FROM FIRST ADOPTERS ITALIAN SMALL FIRMS

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Abstract

Purpose. *The study aims to investigate the characteristics of the first Italian small and medium-sized enterprises (SMEs) that adopted the gender equality certification (UNI/PdR 125:2022). It seeks to identify which types of companies are early adopters and what organisational or managerial features influenced their decision.*
Design/methodology/approach. *This paper focuses on 21 certified companies and adopts an explorative–qualitative descriptive analysis based on a combination of primary survey data and secondary data sources. The available company information was interpreted aiming at reconstructing the context and identifying emerging patterns among early adopters of gender equality certification.*
Findings. *The findings suggest that public procurement incentives are a stronger motivator for certification adoption than tax incentives. Certified firms tend to be innovative, export-oriented, and male-dominated in leadership and workforce. However, there is concern that some companies may adopt the certification superficially, without truly implementing gender equality principles. The study underscores the importance of monitoring certification effectiveness and ensuring its integration into company practices, beyond simply using it to gain competitive advantage in public tenders.*
Practical implications. *The findings highlight the need for a dual policy approach. In the short term, public procurement strongly drives certification uptake but risks encouraging symbolic adoption, making monitoring, audits, and reconfirmation essential. In the long term, lasting change requires embedding gender equality into SMEs' strategies and practices, supported by training, awareness, and best-practice sharing. Tax incentives play a weaker role initially but may matter over time. A combined strategy of coercive, normative, and mimetic measures can strengthen the credibility of UNI/PdR 125:2022 and foster systemic change in Italian SMEs.*
Originality of the study. *This is among the first empirical studies on the initial adopters of Italy's national gender equality certification. It provides a detailed profile of these firms and integrates institutional theory by examining coercive, normative, and mimetic pressures behind adoption. By focusing on early adopters, the study contributes to the literature on corporate social responsibility and gender equality standards, highlighting both opportunities and risks related to voluntary certification schemes in SMEs.*

1. Introduction

Gender Equality (GE) plays a pivotal role in global sustainable development; however, significant gender gaps persist in labour market outcomes. Gender income inequality remains high despite a slow global decline (WTO, 2024). Women are underrepresented in high-wage jobs and overrepresented in low-paid and precarious employment (Ortiz-Ospina et al., 2019; Piketty, 2018), and they face greater barriers in access to finance and career advancement (OECD, 2023; Mattei et al., 2023). The COVID-19 pandemic further exacerbated these disparities, disproportionately affecting female workers (Edwards, 2020; Floris and Atzori, 2024).

In Italy, recent evidence confirms the persistence of gender inequalities despite improvements in educational attainment. Data from AlmaLaurea (2025) show that women now outperform men in terms of graduation rates and average final grades, including in STEM disciplines. Nevertheless, these educational advantages do not translate into equal labour market outcomes. Women continue to experience lower employment rates, more precarious contracts, and a persistent gender pay gap, which widens significantly in the presence of children. These patterns highlight the structural nature of gender inequality and the difficulty of addressing it solely through educational progress.

In response to these challenges, European and national institutions have introduced regulatory and policy tools aimed at promoting gender equality in the workplace. European countries are required to implement EU Directive 2023/970 on pay transparency by June 2026, reinforcing reporting and disclosure obligations for firms. In Italy, the gender pay gap remains a critical issue, as highlighted by INPS (2024a), due to persistent occupational segregation, unequal career progression, and the unequal distribution of care responsibilities.

Within this policy framework, the Italian government introduced a national gender equality certification system (UNI/PdR 125:2022) in 2022. The certification, included in the National Recovery and Resilience Plan, aims to encourage companies to adopt structured policies to reduce gender gaps in areas such as career opportunities, equal pay, work-life balance, governance, and maternity protection. Although voluntary, the certification is supported by tax incentives and, more importantly, by advantages in public procurement procedures, where certified firms receive higher scores in tenders. UNI/PdR 125:2022 provides guidelines and key performance indicators to assess the effectiveness of gender equality policies over time. As of March 2025, more than 6,800 companies in Italy have obtained the certification.

Despite its growing diffusion, UNI/PdR 125:2022 is a very recent measure, and little is known about how firms perceive and approach this cer-

tification, particularly among small and medium-sized enterprises (SMEs). SMEs play a crucial role in the Italian economy but are often characterised by limited resources, strong entrepreneurial influence, and lower formalisation of management practices. These features may affect both the motivations for adoption and the depth of implementation of gender equality standards.

For these reasons, this paper addresses the following research question: *What are the main peculiarities of the first mover SMEs that have opted for gender equality certification?* The study aims to characterise early adopters in terms of sectoral affiliation, innovation and sustainability orientation, governance structures, and organisational features, contributing to the emerging literature on gender equality standards and voluntary certification schemes in SMEs.

2. Literature review

The paper draws on institutional theory, which has been widely used to study the adoption and diffusion of organisational practices (Yang *et al*., 2021; Kostova and Roth, 2002; Naciti et al., 2022). The social context in which firms operate influences companies' behaviour and supports the adoption of similar practices and becomes isomorphic with each other (DiMaggio and Powell, 1983). DiMaggio and Powell (1983) identify three mechanisms of institutional isomorphic change: coercive isomorphism, where external factors (e.g. laws, regulation, supplier relationships) force organisations to adopt particular structures and procedures; normative isomorphism (where organisations adopt the structures and procedures of dominant professions or professional bodies); and mimetic isomorphism (where organisations emulate other organisations). First, coercive isomorphism is the result of formal or informal pressure from other organisations. Second, normative isomorphism stems mainly from formal education (i.e. universities) and interaction with professional associations (DiMaggio and Powell, 1983; Aerts *et al*., 2006). Third, mimetic isomorphism results from the tendency of organisations to model other organisations in response to uncertainty (DiMaggio and Powell, 1983).

Although institutional factors drive the adoption decision, some organisations may have a better fit with certain practices than others (Yang *et al*., 2021). First movers adopt management practices because they respond to normative pressures (Yang *et al*., 2021). Normative pressures force organisations to behave according to societal norms, beliefs and values (Schaefer, 2007). They may lead firms to adopt GE certification as necessary to enhance the firm's reputation in the market (Prajogo *et al*., 2012).

In Italy, concerning the formal pressure, we need to take into consideration the Public Contract Code 2023, which contains the final go-ahead for

the certification of gender equality (and not self-declaration as foreseen in the first version of the Contracts Code) in order to obtain the highest score in calls for tenders, notices, and invitations. In order to promote equality between men and women, the contracting authorities shall indicate, in the contract announcements and invitations, the higher score to be given to companies for the adoption of policies aimed at achieving equality between men and women, as evidenced by the possession of the GE certification (*Article 46-bis of the Code of Equal Opportunities for Men and Women, Legislative Decree no. 198/2006: as of 1 January 2022, the gender equality certification is established to certify the policies and concrete measures adopted by employers to reduce the gender gap in terms of growth opportunities in the company, equal pay for equal work, gender equality management policies and maternity protection).*

Late adopters, in contrast, are more characterised by coercive and mimetic motivations (Iatridis *et al*., 2016). They are more likely to apply the practice symbolically or superficially, without integrating the standard's requirements into their operations (Naveh and Marcus, 2004).

Corporate GE standards and certifications are strongly related to corporate social responsibility (CSR) (Velasco-Balmaseda *et al*., 2024). However, in the abundant literature on CSR and corporate certifications and standards, the primary attention was devoted to those related to the environment, quality assurance, and supply chains. GE certifications and standards are relatively recent and few in number, and there is very little research on this topic (Tzanakou *et al*., 2021).

Velasco-Balmaseda *et al*. (2024) is an exception. They investigated these tools internationally and mapped 36 initiatives worldwide. Results highlight that the main driver of GE standards is the improvement of corporate reputation. Thus, the authors highlighted a "superficial and symbolic" use of the GE concept (Velasco-Balmaseda *et al*., 2024). Sincere business interest in gender issues seems to be lacking, and the use of GE standards appears to be primarily instrumental for different goals.

While the WTO (2022) highlighted the potential role of these tools in advancing women's economic empowerment and conditions, several authors questioned the effectiveness of GE certifications and standards in removing gender inequalities (Mallado *et al*., 2017).

At the same time, stakeholder theory provides an important complementary perspective. According to stakeholder theory, organisations aim to generate multiple benefits for diverse stakeholders, such as employees, governments, shareholders, suppliers, and civil society, whose support is essential for legitimacy and long-term survival (Freeman et al., 2010). This theory expands the institutional view by showing how stakeholder expectations directly shape corporate adoption of certifications and sustainability-related practices (Jones et al., 2018).

Building on this, research distinguishes between primary stakeholders

(customers, suppliers, employees, and shareholders) and secondary stakeholders (governments, regulators, NGOs, and pressure groups) (D'Souza et al., 2022). Primary stakeholders exert transactional pressures, often leading firms to adopt proactive strategies to maintain trust and continuity in essential relationships. For example, customer or investor demands for diversity and inclusion can push firms to adopt certification as a visible signal of responsible governance. Secondary stakeholders exert institutional and reputational pressures, which may generate more reactive strategies, for instance, compliance with public procurement requirements or responding to NGO campaigns against gender bias.

Stakeholder pressures can therefore be multi-dimensional: normative (linked to professional values and social norms), coercive (linked to regulation and public policy), or instrumental (linked to reputational and market-related goals). In practice, these pressures interact, reinforcing each other and shaping whether adoption of certifications is substantive or symbolic. Certifications become more than compliance tools: they serve as mechanisms for firms to demonstrate accountability, meet stakeholder expectations, safeguard legitimacy, and enhance their reputational capital in the eyes of regulators, employees, customers, and wider society (Pereira et al., 2023).

SMEs are strongly linked to the figure of the entrepreneur or sole administrator or CEO. His or her values influence individual and collective behaviour, helping to determine the objectives to be pursued, the choices to be made, and the actions to be taken. When these values, which belong to the individual's personal sphere and are therefore defined as personal or company values, are translated into objectives, choices, and behaviours that find accomplishment in the company system, they acquire relevance in the economic sphere (Vergara, 1986). The entrepreneur's values, understood as the key actor of the company, must be considered among the main factors that determine the company's strategic choices (Marchini, 2000). Previous social science research has identified significant age differences in people's attitudes, values, intentions, and behaviours (Brieger *et al*., 2021). Younger people are mainly looking for social acceptance, while middle-aged people focus on personal growth (Ebner et al., 2006), and older adults show higher levels of social care (Carstensen, 2006; Roberts *et al*., 2006). Younger and older entrepreneurs are more oriented to social value through their companies, while middle-aged entrepreneurs are relatively more economically oriented (Brieger *et al*., 2021). Entrepreneurs' willingness to contribute to social value through their entrepreneurial activities should depend on the life stage. Consequently, the age of entrepreneurs could influence the propensity to engage in social issues.

Therefore, while institutional theory explains how pressures encourage adoption, stakeholder theory highlights the centrality of stakeholders' expectations and legitimacy concerns in shaping the depth and sincerity

of adoption. We therefore argue that the effectiveness of GE certifications depends not only on regulatory and institutional drivers but also on companies' perceptions of stakeholder expectations and the alignment with entrepreneurs' values. Yet, empirical evidence on these dynamics remains scarce. For these reasons, we focus on first adopters of GE certification, considering several characteristics of companies and entrepreneurs to predict the propensity for GE certification.

3. Methodology

This study is part of a larger research project to investigate the drivers, barriers, and perceived benefits of GE certification one year after the introduction of UNI-PdR 125/2022. It takes advantage of a survey of small and medium-sized Italian enterprises operating in six sectors (according to the national classification of economic activities ATECO): 13. Manufacture of textiles; 14. Manufacture of wearing apparel; 15. Manufacture of leather and related products; 29. Manufacture of motor vehicles, trailers, and semi-trailers; 62. Computer programming, consultancy, and related activities; 69. Legal and accounting activities. In order to compare sectors with different organisational contexts in terms of gender, manufacturing and services sectors with a female or male-dominated workforce were selected. In Italy, women are more concentrated in the service sector and remain underrepresented in manufacturing (INPS, 2024b). The total population of SMEs corresponds to 7,546 enterprises. A structured questionnaire was designed to explore company and respondent profiles, the level of knowledge of gender equality standards, and the motivations leading Italian companies to seek certification, as well as the main perceived benefits and barriers. The survey was carried out by CAWI and CATI in December 2023. A total of 866 companies participated, yielding a response rate of 11.5%. Among them, only 21 companies (2.42% of sample) reported having obtained gender equality certification.

The focus of this paper is on these 21 certified companies. Based on an explorative-qualitative approach we conducted a descriptive analysis combining primary data obtained through our survey and secondary data.

We collected the information from an existing Italian database, while some survey data – originating from our questionnaire – were used only marginally and for descriptive purposes. Particularly, we gathered information on export, innovation, web presence, SDGs, and participation in public tenders through the Atoka database (by SpazioDati S.r.L., controlled by CervedGroup), which is a reliable and widely recognized database containing both financial and non-financial information on Italian companies. The survey data was only used to obtain structural information – i.e., the

industry affiliation, the total number of employees and their distribution by gender – which provide a basic description of the companies analysed. The available company information (profiles, descriptions, indicators) was used to reconstructing the sectoral context and identifying emerging patterns in the phenomenon studied. This approach allowed us to reconstructing and interpret the phenomena, highlighting patterns and insights, offering preliminary evidence also to inform future empirical research.

4. Findings

In this section, we try to build a profile of these early adopters by highlighting some interesting characteristics of GE-certified companies.

Of the 21 GE-certified companies, 16 are in the computer programming and consultancy sector, 2 are in the manufacture of motor vehicles, trailers, and semi-trailers, 1 is in the manufacture of wearing apparel, 1 is in the manufacture of leather and related products, and 1 is in the legal and accounting sector (Table 1). This distribution highlights a strong concentration of certified firms in the computer programming and consultancy sector.

Table 1 The sectoral distribution of the companies

SECTORS	**GE-Certified SMEs**
13. Textile manufacturing	0
14. Manufacture of wearing apparel	1
15. Manufacture of leather and related products	1
29. Manufacture of motor vehicles, trailers, and semi-trailers	2
62. Computer programming, consultancy, and related activities	16
69. Legal and accounting activities	1
TOTAL	**21**

Source: Survey.

The average innovation score of the 21 GE-certified companies is 92.2. They are exporting companies, with an average export score of 73.6. The average SDG propensity score is 63, indicating a good interest in sustainability issues. The Social Score and Web Centricity Score are lower, at 55.6 and 40.9, respectively, suggesting that companies pay little attention to these issues (Table 2).

Table.2 Export, Innovation, Social, Web, and SDG score

	Export score	Innovation score	Social score	Web centricity score	SDG propensity score
N	19	21	16	21	21
Missing	2	0	5	0	0
Mean	73.6	92.2	55.6	40.9	63.0
Median	74	99	75.0	38	64
Standard deviation	26.5	12.0	39.5	34.6	12.6
Minimum	25	52	2	0	34
Maximum	100	100	100	98	88

Source: Atoka-Cerved Database.

The average age of the 21 companies is 23.8 years. The minimum age is 7 years and the maximum is 49 years. The average age of company representatives is 53.1 years, ranging from 43 to 68 years. Company representatives are predominantly male, with an average of 5.43, compared with an average of 2.18 female representatives (Table 3).

Table.3 Corporate age and representatives

	Corporate age	Average age corporate representatives	Male representatives	Female representatives
N	21	21	21	11
Missing	0	0	0	10
Mean	23.8	53.1	5.43	2.18
Median	20	53	4	2
Standard deviation	12.0	6.21	4.21	1.40
Minimum	7	43	1	1
Maximum	49	68	14	5

Source: Atoka-Cerved Database.

The certified companies have an average of 80.4 employees, with a minimum of 12 and a maximum of 286. They are, therefore, small and medium-sized enterprises. The average number of men is 53, and the average number of women is 22.2 (Table 4).

Table.4 Number and gender of employees

	Number of Employees	Male Employees	Female Employees
N	21	21	21
Missing	0	0	0
Mean	80.4	53.0	22.2
Median	54	36	15
Standard deviation	69.9	48.4	19.3
Minimum	12	6	1
Maximum	286	167	70

Source: Survey.

In terms of company size, the average turnover is 10,966 million euros, with a minimum of 1,332 million euros and a maximum of 34,389 million euros. Turnover per employee as a productivity index averages 219,614 euros, EBITDA/sales averages 11.9%, equity averages 692,905 euros, and total assets average 17,211 million euros (Table 5).

Table.5 Corporate size of certified companies

	Revenues	Sales by employee	Equity	Ebitda/Sales	Assets
N	21	21	21	21	21
Missing	0	0	0	0	0
Mean	1.10e+7	219614	692905	0.119	1.72e+7
Median	9114000	93667	100000	0.0736	8940000
Standard deviation	9.23e+6	311762	1.16e+6	0.0912	2.20e+7
Minimum	1332000	48693	10000	-0.00839	842000
Maximum	34389000	1.44e+6	4092000	0.305	97081000

Source: Atoka-Cerved Database.

The certified companies are mainly involved in SDG Goals: 5 Gender Equality, 8 Decent Work and Economic Growth, 11 Sustainable Cities and Communities, 16 Piece, Justice and Strong Institutions.

In addition, the GE-certified companies are characterized by several other certifications (Legality rating: by the article 5-ter of Decree-Law No. 1/2012 to promote the introduction of ethical principles in corporate behaviour; SA 8000 – Social accountability standard; ISO 9001 – Quality management systems; ISO 14001 – Environmental management systems; ISO 27001 – Information security management system; ISO 27017 – Secu-

rity standard developed for cloud service providers and users; ISO 27018 – Standard about data privacy in cloud environments; ISO 37001 – Anti-bribery management systems; ISO 45001 - Occupational health and safety management systems – Requirements with guidance for use) (Table 6).

Table.6 SDG Goals and Certifications

ID	SDG Goals	Other Certifications
1	5,8	ISO 27001; ISO 9001
2	5	n.a.
3	3,6,8,9,11,12,13,14,15,16	ISO 45001; ISO 14001
4	3,5,6,8,9,10,11,12,13,14,15,16	Legality rating; SA8000; ISO 37001; ISO 27001; ISO 45001; ISO 14001; ISO 9001
5	5	ISO 9001
6	n.a.	ISO 9001
7	5	ISO 27001; ISO 9001
8	3,5,6,9,12,13,14,15	UNI 14001:2015
9	5,8,11,16	Legality Rating
10	3,4,5,7,8,9,10,12,16	n.a.
11	3,5-6-7-8-9-10-11-12-13-14-15-16	Legality Rating; ISO 9001; ISO 14001; ISO 27001
12	5	ISO 27001; ISO 9001
13	n.a.	n.a.
14	5,8,11,16	Legality Rating; ISO 9001
15	5,8,10,11,16	Legality Rating; SA 8000
16	n.a.	n.a.
17	n.a.	n.a.
18	n.a.	Legality Rating; ISO 9001
19	3,5,6,8,9,10,11,12,13,14,15,16	Legality Rating; ISO 9001; ISO 14001; ISO 27001; ISO 27017; ISO 27018
20	5,8,11,16	Legality Rating
21	5,8,9,10,11,12,16	Legality Rating; ISO 27018; ISO 27017; ISO 9001; ISO 27001

Source: Atoka-Cerved Database.

Table 7 is devoted to the involvement of enterprises in public tenders. The relevance of public procurement in 2021-2024 is high or maximum for seven companies, irrelevant for twelve companies and zero for only one company.

However, the number of contracts awarded in 2016-2025 is very heterogeneous, ranging from a minimum of 3 contracts to a maximum of 3,800 (not including ID 16, which does not participate in public tenders). Moreo-

ver, the average value of the contracts (in thousands of euros) ranges from a minimum of 1,1 thousand euros to a maximum of 23,400 thousand euros.

Finally, most businesses are male-dominated. Only one company is female-dominated, which belongs to the computer programming and consultancy sector (Nace 62).

Table.7 Public procurement relevance and male or female-dominated

ID	Public procurement relevance (2021-2024)	Contracts awarded in the decade 2016-2025	Average contract (thousand euro)	NACE code	Male or female dominated
1	irrilevant	3800	271.2	62.01	Male
2	irrilevant	3	35.3	69.20	Male
3	irrilevant	126	2,700	62.01	Male
4	max	83	2,300	14.1	Male
5	irrilevant	14	5.5	62.02	Female
6	irrilevant	14	3.9	29.32	Male
7	high	292	45.2	62.02	Male
8	high	506	6.7	62.09	Male
9	high	362	37	29.20	Male
10	low	11	57.6	62.01	Male
11	irrilevant	17	683	62.01	Male
12	max	1000	4.4	62.01	Male
13	irrilevant	4	1.1	62.02	Male
14	irrilevant	16	8	62.02	Male
15	max	189	23,400	62.01	Male
16	null	0	0	15.20	Male
17	max	15	2,400	62.02	Male
18	irrilevant	127	17.3	62.01	Male
19	irrilevant	330	43.6	62.01	Male
20	irrilevant	11	6.3	62.01	Male
21	irrilevant	215	1,100	62.02	Male

Source: Atoka-Cerved Database.

5. Discussion and conclusions

Answering our research question, *"What are the main peculiarities of the first mover SMEs that have opted for gender equality certification?"*, the findings allow us to trace a clear and coherent profile of the first SMEs adopting gender equality certification in Italy. These early adopters are predominantly knowledge-intensive, service-oriented firms, with a strong concentration in the computer programming and consultancy sector. This sectoral focus suggests that early adoption is facilitated by exposure to formalized management systems, regulatory environments, and public procurement procedures, which reduce organizational barriers to certification.

From a strategic and organizational perspective, first adopters are highly innovative and outward-oriented firms, as indicated by very high innovation scores and strong export performance. They also display a moderate but consistent sensitivity to sustainability issues, particularly those aligned with SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), and SDG 16 (Peace, Justice, and Strong Institutions). At the same time, relatively low social and web centricity scores suggest that sustainability and gender-related commitments are not strongly communicated to internal or external stakeholders, pointing to a more managerial or compliance-oriented framing of certification.

In terms of organizational demographics, certified firms are established SMEs, with an average age of nearly 24 years, led by middle-aged company representatives (around 53 years old). Leadership and workforce structures are predominantly male-dominated, with only one female-dominated firm in the entire sample. This persistent gender imbalance highlights a potential misalignment between the formal adoption of gender equality standards and existing governance and employment structures.

From an economic standpoint, early adopters are financially viable firms with sufficient resources to absorb the costs associated with certification, monitoring, and compliance. However, the marked heterogeneity in turnover, productivity, and profitability indicates that certification is not limited to top-performing firms, but rather to organizations that possess adequate administrative capacity and strategic incentives. The frequent presence of multiple other certifications (e.g., ISO standards, SA8000, and the Legality Rating) further suggests that early adopters are firms already accustomed to compliance-driven practices and standardized management systems, pointing to a path-dependent adoption process.

Finally, involvement in public procurement emerges as a defining feature of first adopters. Although the intensity of participation varies considerably across firms, nearly all certified companies have engaged with public tenders over time. Public procurement relevance, both in terms of

contract numbers and contract values, appears to be a key contextual factor shaping adoption decisions. Importantly, firms benefiting from procurement-related incentives remain overwhelmingly male-dominated, indicating that certification uptake does not automatically translate into changes in internal gender composition.

The existing literature highlights that first movers adopt management practices because they respond to normative pressures (Yang *et al.*, 2021). Normative pressures force organisations to behave according to societal norms, beliefs, and values (Schaefer, 2007). They may lead firms to adopt GE certification to improve their reputation (Prajogo *et al.*, 2012).

Nevertheless, the examined companies adopted a voluntary standard, incentivised by the Italian Government through tax and public procurement incentives. All certified companies, except one, are involved with public tenders, even if to a different degree, in the past years. Thus, the public procurement code would affect the choice to obtain the GE certification. Furthermore, the certified companies have middle-aged representatives, who, according to the existing literature, tend to focus on personal development and are more economically oriented (Brieger *et al.*, 2021; Ebner *et al.*, 2006).

Thus, coercive isomorphism would result from formal pressure through the law (the public procurement code and not the UNI/PdR 125/2022, which is voluntary). The formal pressure exerted by the Public Procurement Code, which awards points for gender equality certification, seems to impact the decision-making process in Italian SMEs significantly. Compliance with the Public Procurement Code is not only a question of complying with the law, but above all, it is a question of the possibility of winning the public tender, which means winning the contract and the associated turnover. Therefore, it is a question of competitiveness and survival for the company to access the public procurement market.

The public procurement incentive seems to work much more than the tax incentive. The problem is related to applying the GE standard, as the practice could be applied symbolically or superficially without integrating the standard's requirements into their operations (Naveh and Marcus, 2004).

This study contributes to the academic debate on gender equality certification in SMEs by extending the application of institutional and stakeholder theories to a novel and underexplored domain. First, the findings show how coercive pressures, particularly those linked to the Public Procurement Code, act as the most effective triggers for early adoption of the UNI/PdR 125:2022 certification. This highlights that, in the SME context, compliance with external regulations and incentives is often a matter of competitiveness and survival rather than a voluntary alignment with social values (DiMaggio and Powell, 1983; INPS, 2024a). Theoretically, this supports the idea that coercive isomorphism may dominate in contexts

where certification is directly tied to market access, thereby enriching institutional theory with evidence from small firm settings (Yang et al., 2021; Kostova and Roth, 2002).

Second, the evidence of limited influence from tax incentives and the prevalence of male-dominated leadership structures raises questions about the symbolic versus substantive adoption of gender equality standards. This resonates with the literature on ceremonial compliance (Meyer and Rowan, 1977; Naveh and Marcus, 2004) and suggests that certifications can become decoupled from actual organisational practices if monitoring mechanisms are weak. Our findings therefore contribute to the institutional theory debate by showing how symbolic adoption risks are particularly salient in SMEs, where resources and managerial attention are constrained (Velasco-Balmaseda et al., 2024).

Third, by integrating stakeholder theory, this study illustrates how primary stakeholders (employees, customers, investors) and secondary stakeholders (government, NGOs, regulators) exert distinct but complementary pressures that interact with institutional drivers (Freeman et al., 2010; D'Souza et al., 2022; Jones et al., 2018). Specifically, findings suggest that secondary stakeholders, particularly public authorities acting through the Public Procurement Code, play a dominant role in triggering adoption. Nearly all certified firms are involved in public tenders, and the relevance of procurement incentives clearly outweighs other motivations. This indicates that stakeholder pressure is primarily coercive and institutional, rather than relational, reinforcing the central role of government and regulators as key secondary stakeholders shaping certification choices. In contrast, pressures from primary stakeholders appear comparatively weak in the observed sample. The limited attention to social communication and web centricity, together with the persistence of male-dominated leadership and workforce structures, suggests that certification is not predominantly driven by internal employee demands or market-based expectations for diversity and inclusion. Rather than responding to bottom-up stakeholder engagement, firms seem to adopt certification mainly as a strategic response to external incentives linked to competitiveness and access to public contracts.

Within this context, the role of the entrepreneur in SMEs becomes critical in mediating stakeholder pressures. The prevalence of middle-aged, predominantly male business leaders helps explain why certification is often pursued reactively, as a compliance-oriented strategy, rather than proactively as part of a broader social or ethical mission. Entrepreneurial values and life-stage orientations influence whether stakeholder expectations are internalized or treated instrumentally, thereby shaping the depth of certification implementation. Moreover, this study highlights an asymmetry between strong secondary stakeholder pressures and weak pri-

mary stakeholder engagement. In doing so, it strengthens the integration of stakeholder theory with institutional theory. The findings demonstrate that, in SMEs, stakeholder influence is filtered through institutional mechanisms and entrepreneurial discretion, linking micro-level managerial values with macro-level regulatory and stakeholder forces. This contributes to the literature by showing that, when applied to certification adoption, stakeholder theory must account not only for who the stakeholders are, but also for which stakeholder pressures effectively materialize in practice and under what institutional conditions.

Finally, our findings advance the debate on gender equality certification specifically by profiling the first adopters as innovative, export-oriented SMEs that are nonetheless male-dominated and motivated primarily by procurement advantages. This suggests that certifications risk reinforcing existing gender imbalances if not accompanied by deeper organisational and cultural change. Theoretically, this calls for a refinement of current models of certification adoption by explicitly incorporating the paradox of symbolic adoption: certifications may signal legitimacy to external audiences while leaving internal power structures largely unchanged (Mallado et al., 2017; Tzanakou et al., 2021).

From a policy perspective, our findings highlight the need to adopt a more nuanced approach that distinguishes between short-term incentives and long-term cultural transformations. In the short term, public procurement emerges as a powerful coercive mechanism to stimulate certification uptake. Yet, its effectiveness risks being undermined if gender equality certification is adopted merely as a symbolic strategy to secure tender advantages. These findings have policy implications, highlighting the need to monitor the initial adoption of GE certification and enforce triennial reconfirmation to assess the effectiveness of the incentive. To further prevent "pink-washing" or the instrumental use of certification, concrete monitoring mechanisms, such as independent audits, mandatory progress reports, and systematic follow-up assessments, should be institutionalized to ensure that certification translates into substantive organisational change rather than ceremonial compliance. In the longer term, however, the challenge lies in fostering a cultural reorientation within SMEs, where gender equality principles are internalized into managerial values, strategic priorities, and everyday practices. This requires complementary measures that go beyond procurement incentives, including sector-specific training programs, awareness-raising initiatives, and the dissemination of best practices through industry associations and professional networks. Moreover, our evidence suggests that tax incentives do not appear to exert a strong influence in the initial phase of adoption, and their effects may only materialize over time, as normative and mimetic pressures progressively persuade potential late adopters. By combining coercive instruments with normative

and mimetic levers, policymakers can mitigate the risk of superficial compliance while fostering a gradual cultural shift towards genuine internalization of gender equality principles. Such a dual-track strategy not only enhances the credibility and legitimacy of the UNI/PdR 125:2022 certification but also contributes to embedding gender equality into the broader organisational field, paving the way for systemic change in the Italian SME landscape.

Our study has certain limitations, which at the same time point to promising directions and developments for future research.

First, the main limitation concerns the limited number of companies, that is 21 cases, and the predominance of the computer programming and consultancy sector. While this sample allows us to provide in-depth descriptive evidence, it inevitably constrains the generalizability of the findings and increases the risk that results may be influenced by sectoral peculiarities. Specifically, the predominance of firms operating in the IT industry may lead to a sectoral bias, since the dynamics of certification in this field might not fully reflect those of other industries. Future research relying on larger and more diversified samples would be necessary to validate and extend the insights emerging from this exploratory investigation. At the same time, the concentration of certified firms in the IT sector provides useful insights into how certification develops in highly dynamic industries, which may serve as a precursor for its diffusion into other sectors, a direction that future research could explore further. Furthermore, while we believe this study provides a valuable and original contribution by offering one of the first empirical insights into the early adopters of GE standards in Italy, future studies could expand the sample size and move beyond descriptive approach by exploring correlations and regression models. This would allow for the identification of potential predictors of GE certification and a deeper investigation of cause-effect relationships. Second, the present study relies on data collected at a single point in time, which does not allow us to capture the evolution of GE certification adoption. Future research steps may involve a longitudinal analysis to assess the evolution of GE certification adoption over time. In particular, conducting in-depth interviews could help to explore motivations and obstacles influencing adoption, as well as to identify potential differences across sectors (manufacturing, trade, and services) and geographical locations. Moreover, future studies could also investigate the actual effectiveness of GE certification instruments over time, by examining whether and to what extent they produce the intended outcomes. In this regard, involving employees directly would provide valuable insights into how the certification process is perceived internally and how it affects organisational practices, culture, and behaviors.

Overall, while this study highlights that public procurement incentives

represent a stronger driver of GE certification than tax benefits, it also raises concerns about the risk of superficial adoption. These findings call for future longitudinal research to assess the actual effectiveness of certification tools and to capture employees' lived experiences, thereby ensuring that certification translates into genuine organisational change rather than remaining a symbolic instrument for competitive advantage in public tenders.

Another critical aspect deserving further reflection concerns the male-dominated profile of most certified firms in our sample. While these companies have formally adopted the UNI/PdR 125:2022 certification, their ownership and managerial structures often remain predominantly male. This raises important questions about the extent to which certification translates into substantive organisational or cultural change, as opposed to serving a more symbolic or compliance-driven function. The risk is that gender equality certification may reinforce existing power structures if not accompanied by deeper, more transformative practices.

Future research should investigate how gender dynamics within certified firms evolve over time and whether the certification process itself fosters more inclusive leadership and decision-making structures. In particular, future studies could adopt a qualitative research design based on in-depth interviews with entrepreneurs, managers, and key organizational actors. Such an approach would allow scholars to explore in greater detail why firms decided to pursue gender equality certification, the nature and intensity of stakeholder pressures they faced, and whether these pressures originated primarily from institutional actors, such as public authorities and regulators, or from internal and market-based stakeholders. Moreover, qualitative evidence could help uncover the main motivations underlying certification adoption, as well as the perceived benefits and challenges encountered during and after the certification process, thereby providing a richer and more nuanced understanding of the drivers and consequences of gender equality certification in SMEs.

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CAPTURING INTANGIBLE WORTH: A BIBLIOMETRIC REVIEW OF START-UP PRE-MONEY VALUATION RESEARCH

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Abstract

Purpose. *This paper aims to develop a comprehensive and structured overview of academic research on pre-money valuation in startups, with a specific focus on the integration of intangible assets into valuation models. It addresses persistent limitations in the literature, such as fragmented theoretical contributions, the dominance of traditional financial metrics, inconsistent use of alternative multiples, and the underexplored role of data-driven and machine learning (ML) techniques.*

Design/methodology/approach. *Adopting a bibliometric methodology, the study analyses 170 peer-reviewed journal articles published between 2010 and 2024. The analysis integrates citation metrics, age-weighted citation rates (AWCR), co-citation networks, keyword co-occurrence, bibliographic coupling, and country-level productivity and impact. VOSviewer software was used to generate visual mappings of the literature's intellectual structure.*

Findings. *The bibliometric analysis reveals a diverse and evolving research landscape. Contributions range from traditional financial valuation models to alternative efficiency-based metrics and the emerging application of data-driven and machine learning techniques. The thematic coverage extends to issues such as crowdfunding signals, institutional and geographical influences, and the growing relevance of intangible assets – including human capital, user engagement, and ecosystem maturity – in shaping startup pre-money valuation.*

Originality/value. *This is the first bibliometric review focused exclusively on startup pre-money valuation that systematically integrates performance analysis, structural relationships, and the role of intangible and ML-enabled indicators. It offers an evidence-based agenda for future research and contributes to the development of valuation models that better reflect the complexity and heterogeneity of early-stage ventures.*

1. Introduction and research objectives

Pre-money valuation for early-stage ventures still relies on DCF, comparables, and the VC method – approaches that presuppose stability of cash-flows and accounting inputs rarely available in nascent firms (Damodaran, 2010; 2023; Metrick & Yasuda, 2021; Hand, 2021). Consequently, a growing literature elevates intangible drivers – human capital, founder attributes, user engagement, intellectual property, and ecosystem maturity – as determinants of venture value (Taherizadeh & Beaudry, 2023; Cumming, Groh & Vismara, 2022; Block, Colombo, Cumming & Vismara, 2018; Hmieleski & Baron, 2009; Klotz et al., 2014). Yet beyond the well-noted "heterogeneity", the field faces a more precise unresolved issue: the absence of a shared conceptual architecture that:

1) specifies which intangible constructs are valuation-relevant;
2) clarifies how they are operationalized (metrics, proxies, thresholds);
3) delineates where they enter valuation mechanics (cash-flow inputs, risk/discount adjustments, alternative multiples, or hybrid/ML frameworks).

In the absence of such an architecture, findings are difficult to compare across contexts and the status of intangibles remains indeterminate, variously treated as a paradigm shift or as a bolt-on extension.

To frame (rather than to test) our inquiry, we adopt an institutional perspective: valuation practices are shaped by financing architectures, regulatory and disclosure regimes, legal protections, liquidity conditions, and the composition of investor communities. In bank-based systems and SME venues, governance templates, credit intermediation and market depth condition which non-financial proxies become decision-useful; in market-/VC-based ecosystems, deeper risk capital and data availability favor traction- and founder-centric indicators. This lens anticipates (and our country-sensitive analysis later documents) systematic cross-national variation in the salience and operationalization of intangible drivers, as well as path-dependence in the adoption of hybrid metrics and model placements.

To address these issues, we employ a bibliometric design that integrates performance analysis with science mapping – co-citation, bibliographic coupling, and keyword co-occurrence – to reconstruct the field's latent structure (Aria & Cuccurullo, 2017; Van Eck & Waltman, 2010). This approach delineates coherent clusters of intangible constructs, traces methodological linkages across studies, and identifies the outlets and geographies in which specific operationalization's have diffused.

In doing so, it makes visible areas of emerging convergence, pinpoints standardisation deficits, and provides a robust evidence base for a cumulative research agenda.

Against this background, we articulate two focused research questions that bound the inquiry and structure the analysis:

RQ1: To what extent – and through which operational forms – have intangible drivers been formally integrated into start-up pre-money valuation (e.g., as inputs to cash-flow forecasts, risk/discount adjustments, alternative multiples, or hybrid/ML-enabled frameworks)?

RQ2: How does such integration affect the reliability and decision-usefulness of conventional valuation metrics (accuracy, comparability, and external validity across sectors and regions)?

By addressing these questions, the paper advances the literature in two ways. First, it proposes an explicit conceptual architecture for intangibles in pre-money valuation, identifying the dominant constructs, their operational proxies, and their locus within valuation algorithms. Second, it offers an evidence-based map of where convergence is emerging and where further standardisation and validation are required. Together, these contributions shift the debate from dispersion to transparent, testable, and context-aware practices for early-stage valuation (Hand, 2021; Damodaran, 2023).

2. Background literature review and positioning our approach

The literature on start-up valuation increasingly converges on a common premise: intangible drivers matter. Evidence spans human capital and team composition, ecosystem maturity and network embeddedness, user engagement and traction, as well as founder traits and cognition (Cumming, Groh & Vismara, 2022; Block, Colombo, Cumming & Vismara, 2018; Hmieleski & Baron, 2009; Klotz et al., 2014). Read together, these strands point to how intangibles enter valuation mechanics rather than merely whether they do so. In some studies they inform cash-flow expectations – for instance when user engagement is used to frame growth and retention; in others they operate through risk and discounting, as governance quality, intellectual property, or team experience alter perceived uncertainty and required returns; elsewhere they underpin pricing via comparables, multiples, or hybrid/ML specifications that elevate traction and platform metrics to first-class inputs (Damodaran, 2023; Metrick & Yasuda, 2021; Hand, 2021; Block, Colombo, Cumming & Vismara, 2018).

Digital business-model logics connect user engagement to value creation and, ultimately, to cash-flow and multiples (Amit & Zott, 2001). Classic analyses of venture governance and contracting underscore why early-stage valuation departs from mature-firm templates (Sahlman, 1990; Kaplan & Strömberg, 2003; Damodaran, 2009).

At the same time, recurring tensions temper the headline message. Measurement is heterogeneous: founder traits range from qualitative narratives

to psychometric instruments; intellectual property is proxied by counts, scope, or quality; "traction" oscillates between revenue run-rates, active users, and engagement indices. Foundational work on intangibles and appropriability highlights the need for auditable proxies and quality-oriented metrics (Lev, 2001; Teece, 1986). Such variability complicates comparability and weakens external validity across sectors and regions (Colombo et al. 2007). Findings are also uneven: while redesigns and intangible-inclusive models can improve explanatory or predictive accuracy (Giuggioli et al., 2024), behavioral variables often prove noisy and context-dependent, leaving open whether intangibles refine legacy approaches or supplant them only in particular settings.

An institutional reading helps reconcile these contradictions. Bank-based environments and SME venues privilege governance, credit intermediation and disclosure practices, which makes some non-financial proxies more decision-useful than others (Buonasera et al. 2025); market- and VC-based ecosystems, under deeper risk capital and greater data availability, tend to elevate founder signals and user-level metrics. Legal protection and market architecture shape which non-financial signals become decision-useful in practice (La Porta et al., 1997; Allen & Gale, 2000). Legal and IP regimes, liquidity conditions and investor composition thus mediate both the salience of a given intangible and its operationalization in practice (Colombo et al. 2007; Cumming et al., 2022). What sometimes appears as inconsistency across studies often reflects path-dependence in valuation templates rather than mere empirical noise.

Against this backdrop, our contribution is not to introduce yet another stand-alone model, but to synthesize and position the field systematically.

Using bibliometric methods, we recover the latent structure of constructs and operational forms, locate where proxies sit within cash-flow, risk/discount, and multiples/hybrid channels, and read country-sensitive patterns by triangulating with outlet and geography metadata (Aria & Cuccurullo, 2017; Van Eck & Waltman, 2010; Black et al., 2024). This strategy moves from cataloguing to explanation: it clarifies where the literature is converging, where standardization is needed, and when divergence is better understood as institutional path-dependence rather than contradiction.

3. Research methodology

We adopt a bibliometric design that combines systematic-review procedures with science-mapping techniques to examine how founder personality, human capital, user engagement, and intellectual property have been integrated into the start-up pre-money valuation literature (Tranfield, et al., 2003; Kitchenham, 2004; Aria & Cuccurullo, 2017; Van Eck & Waltman,

2010; Cobo, et al., 2011; Zupic & Čater, 2015). This approach is suitable for large corpora and recovers the latent intellectual structure of the domain, distinguishing established clusters and emergent hybrids without imposing a single model specification.

Records were gathered from Scopus and Web of Science, which provide broad coverage of peer-reviewed journals, reliable citation metadata, and interoperability with standard bibliometric toolchains (e.g., bibliometrix/VOSviewer). We recognize that entrepreneurship, venture-capital, and regional outlets can be partially under-indexed in individual databases; using both in tandem increases representativeness, improves deduplication, and supports robust citation- and coupling-based analyses. Google Scholar was excluded due to its primary limitation – namely, the lack of quality control and the inclusion of non-peer-reviewed and duplicate records – which undermines its reliability for systematic citation analysis (Jacsó, 2010; Aguillo, 2012). As a coverage check, we verify that core field journals (Journal of Corporate Finance, Venture Capital, Small Business Economics, Management Science, Entrepreneurship Theory and Practice, Journal of Banking & Finance, and Journal of Corporate Accounting & Finance) are captured in the corpus.

Following established protocols (Tranfield et al., 2003; Denyer & Tranfield, 2009), the search strategy used two concept blocks combined with AND: a valuation block ("pre-money valuation", "start-up valuation", "venture capital method", "discounted cash flow", comparables; Metrick & Yasuda, 2021; Damodaran, 2023) and an intangibles block ("human capital", "founder personality", "ecosystem", "intellectual property", "user engagement", intangible*; Colombo et al., 2007; Hand, 2021), constructed using faceted Boolean logic (Tranfield et al., 2003). Broader wildcarding was tested but exact phrases were retained to limit topic drift (Falagas, et al., 2008). We restricted results to journal articles, English language, 2010–2024. To ensure construct comparability and bibliometric reproducibility, we delimit the empirical window to 2010–2024 – a period in which the operationalization of intangibles (e.g., digital traction, cohort metrics, IP quality) and the completeness of citation metadata in Scopus/Web of Science became sufficiently standardized for large-scale mapping; pre-2010 seminal works are nonetheless captured through co-citation and are discussed in the theoretical framing. Full strings with field tags (TITLE-ABS-KEY / TS), filters, and export parameters are provided in Appendix to ensure transparency and replicability.

Search results (n = 442) were exported, merged, and deduplicated (duplicates removed: 43). Screening proceeded in two stages with operational thresholds to enhance reproducibility. At the title/abstract/keywords stage, we included items containing at least one valuation term and at least one intangibles term, excluding clearly out-of-scope domains (e.g., real-

estate DCF; cultural intangibles unrelated to firm valuation).

At the full-text stage, inclusion required an explicit link between intangibles and valuation, meeting both of the following:

at least two explicit references to valuation models/metrics (e.g., DCF components, discount/risk layers, comparables/multiples, hybrid/ML frameworks);

at least one dedicated section or subsection (or equivalent empirical specification) in which intangible constructs are operationalized (metrics/proxies) and positioned within valuation mechanics. After stage one, 188 full texts remained; after stage two, the final corpus comprised 170 articles (Cumming et al., 2022; Hand, 2021).

A PRISMA-style flow diagram, examples of borderline decisions, and the outlet list are reported in Appendix (Figure 4). Ambiguities were resolved via double reading and consensus.

Analytically, we combine complementary bibliometric lenses consistent with the study's institutional framing. Citation performance analysis identifies foundational works and temporal/journal concentration (Damodaran, 2023; Cumming, et al., 2022). Co-citation analysis reveals thematic alliances via co-referencing patterns, testing convergence between human-capital/founder/ecosystem strands and classical valuation contributions (Garfield, 1970; Hirsch, 2005; White & McCain, 1998; Rappazzo et al., 2024). Keyword co-occurrence assesses the breadth and depth of integration between "ecosystem", "user engagement", and "founder personality" on the one hand and "pre-money valuation"/"discounted cash flow" on the other (Colombo et al., 2007; Van Eck & Waltman, 2010). Bibliographic coupling groups documents with shared references to surface methodological/theoretical affinities and emergent hybrid frameworks (Zott & Amit, 2007; Li & Zahra, 2012). Finally, country-sensitive mapping (Rappazzo et al. 2023) locates where and why non-financial drivers gain traction (VC ecosystems, investor cultures), highlighting context-dependence in the adoption of intangible-oriented valuation.

4. Citation analysis

We assess total citations for 170 articles (2010–2024) as a field-impact proxy (Damodaran, 2023; Metrick & Yasuda, 2021). Scopus/WoS counts were merged in Excel with duplicate removal and format alignment (Aria & Cuccurullo, 2017). The corpus yields 2.215 citations (mean 13,03), with dispersion by age/salience (Block et al., 2018).

Citation tiers: 158 ≥1 (92,94%), 86 ≥10 (50,59%), 29 >30 (17,06%), 11 >50 (6,47%), pointing to a broad mid-tier plus key references (Cumming, et al., 2022; Hand, 2021). To correct age bias we used AWCR (Ding, et al., 2016;

Aria & Cuccurullo, 2017) - which elevates recent studies on human capital and user engagement to parity with older classics (Block, et al., 2023; Damodaran, 2023; Hand, 2021).

$$AWCR(i) = \frac{C(i)}{1+[Y(now)-Y(i)]^{d'}}$$

Where $Y(i)$ represents the publication year of article i, Y(now) is 2024 (the final year considered), $C(i)$ indicates the total number of citations that article i has received, and d is a parameter that determines how rapidly the citation weight decreases for "older" articles. In this research, d=1, following literature recommendations that favor a linear penalty (Aria & Cuccurullo, 2017).

Table 1 *– Total papers and citations per "source group"*

	JCF		VC		SBE		Others		Total	
	n	%	n	%	n	%	n	%	n	%
TP	43	25.29	31	18.24	26	15.29	70	41.18	170	100
TC	2307	36.91	1523	24.38	1297	20.76	1121	17.95	6248	
TC/TP	53.65	---	49.13	---	49.88	---	16.01	---	36.76	---

Source: authors elaboration

Table 1 summarizes Journal Corporate Finance (JCF), Venture Capital (VC), Small Business Economics (SBE) and Others by TP (total number of articles found in each source group), Total Citation - TC (share of 6.248) and TC/TP; e.g., JCF: 2.307 citations / 43 papers (53,65), while Others gathers 70 papers with lower average impact (16,01). Hence, corporate-finance and VC journals dominate citations, with "peripheral" outlets expanding coverage of intangible-oriented work (Block, et al., 2018; Damodaran, 2023).

5. Country analysis

The geographical dimension of the field was mapped by tracking productivity (TP) and impact (TC) for the top-10 countries in pre-money valuation research, using both unweighted counts (first-author affiliation) and fractional counts (TPW/TCW) that split credit across co-author countries. This dual specification reduced over-attribution to first-author countries and captured international collaboration (Cumming, et al., 2022; Damodaran, 2023; Hand, 2021; Cassar & Holmes, 2003).

Table 2 *– The most productive Countries (Number of Publications per Journal)*

		All Journals			JCF		VC		SBE	
#	Country	TP	TPW	TPW%	TPW	TPW%	TPW	TPW%	TPW	TPW%
1	USA	32	29.30	17.24	13.2	45.06	10	34.13	6.1	20.81
2	UK	28	28.00	16.47	9.1	32.50	12	42.86	6.9	24.64
3	Italy	25	23.60	13.88	7.0	29.66	9	38.14	7.6	32.2
4	Germany	21	20.00	11.76	6.6	33.00	7	35	6.4	32
5	Canada	18	19.00	11.18	5.9	31.05	6	31.58	7.1	37.37
6	France	15	16.00	9.41	5.0	31.25	4.7	29.38	6.3	39.38
7	Spain	14	13.35	7.85	4.0	29.96	4.3	32.2	5.0	37.45
8	Portugal	10	10.50	6.18	3.0	28.57	4	38.1	3.5	33.33
9	Australia	5	6.30	3.71	2.0	31.75	2.3	36.51	2.0	31.75
10	Japan	2	1.70	1.00	0.7	41.18	0.5	29.41	0.5	29.41
TOTAL		**170**	**170**	**98.68**	**56.5**		**59.8**		**51.4**	

Source: authors elaboration

Within the 170-article corpus, only a limited set of countries surpassed key productivity thresholds, although the overall footprint proved geographically broad (Block, Colombo, Cumming & Vismara, 2018). In Table 2, TP/TC were reported unweighted; TPW/TCW reflected co-authorship; JCF/VC/SBE columns showed the weighted outlet split (Hand, 2021). In absolute terms, the USA (32) ranked first, followed by the UK (28) and Italy (25); Australia and Japan appeared less prolific yet remained internationally visible (Block, Colombo, Cumming & Vismara, 2018).

A different ranking emerged for citations: the UK (733/712) led, followed by the USA (681/661), then Germany (627/610) and Italy (615/598) (TC/TCW) (Cumming, Groh & Vismara, 2022). Discrepancies between output and impact (e.g., Germany, France) indicated fewer papers but a higher average impact.

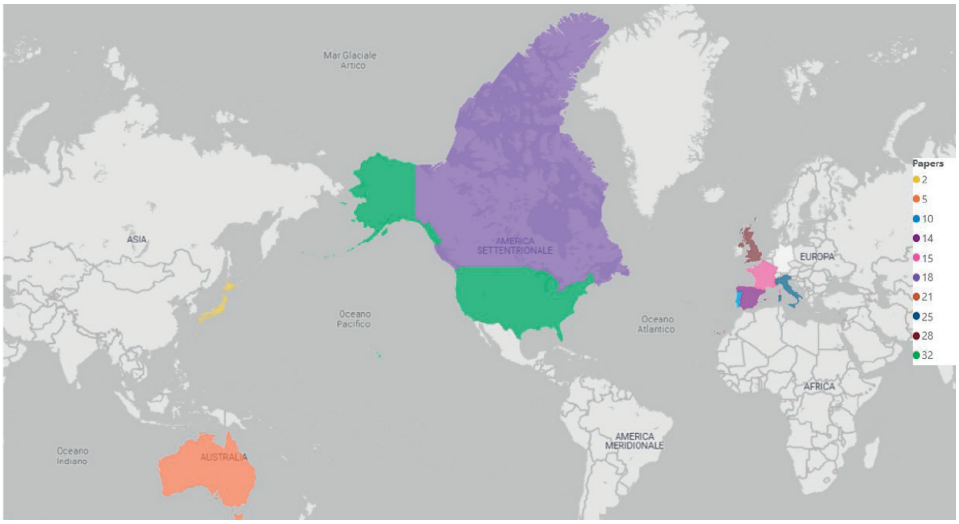
Table 3 *– The most cited countries (Number of citations per Journal)*

	All Journals				JCF		VC		SBE	
#	Country	TC	TCW	TCW%	TCW	%	TCW	VC_%	TCW	%
1	UK	733	712	18.77	241	33.85	213	29.92	258	36.24
2	USA	681	661	17.29	211	31.90	198	29.96	252	38.13
3	Germany	627	610	15.61	187	30.66	188	30.82	235	38.52
4	Italy	615	598	15.18	170	28.43	203	33.98	225	37.59
5	Canada	585	564	14.27	178	31.56	171	30.32	215	38.12
6	France	494	476	12.38	155	32.56	137	28.78	184	38.66
7	Spain	385	369	9.48	111	30.08	105	28.44	184	38.66
8	Portugal	314	299	7.62	92	30.77	80	26.76	153	41.48
9	Australia	297	281	7.04	90	32.03	83	29.54	127	42.48
10	Japan	234	221	5.82	71	32.12	57	25.79	93	42.08
TOTAL		**4965**	**4791**		**1506**		**1435**		**1850**	

Source: authors elaboration

Cross-national differences were consistent with VC ecosystem depth, regulatory regimes, and risk culture (Figure 1). In the United States, a mature VC market and strong investor appetite for intangible-heavy ventures steered scholarship toward founder traits and user metrics, topics that tended to attract citations (Hmieleski & Baron, 2009). Much of continental Europe remained more bank-based/public-program oriented, prompting institutional/policy-focused studies with distinct citation profiles (Colombo et al., 2007). Stronger academy–industry collaboration in U.S. clusters (e.g., Silicon Valley) enabled richer datasets on intangibles and increased global visibility (Block, et al., 2018). Overall, the salience of non-financial indicators varied with funding mechanisms, risk tolerance, and researcher–investor engagement, helping to explain why certain national literatures travelled further citationally (Giuggioli et al., 2024).

Figure 1 *– Global Distribution of Start-Up Valuation Research*



Source: authors elaboration by using Microsoft PowerBI (BING technology)

The Top-30 list (title, year, outlet, first-author nationality, TC, AWCR) showed that the most influential contributions originated both from the three core journals and adjacent venues, evidencing convergence toward hybrid valuation that blended financial methods with intangible measures (Damodaran, 2023; Hand, 2021).

Table 4 - *Thirty Most Influential Papers on Pre-Money Valuation*

Author(s)	Title	Year	Journal	Country	TC	AWCR	Rank TC	Rank AWCR
Damodaran, A.	Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2023 Edition	2023	JCF	USA	85	42.50	1	4
Hand, J.R.M.	The Pricing of Pre-Revenue Private Startup Companies	2021	JCF	USA	78	50.70	2	1
Gompers, P., Gornall, W., Kaplan, S.N., & Strebulaev, I.	How Do Venture Capitalists Make Decisions?	2020	JCF	USA	65	31.64	5	7
Metrick, A., & Yasuda, A.	Venture Capital and the Finance of Innovation (3rd ed.)	2021	JCF	USA	50	34.00	10	9
Cumming, D.J., Groh, A.P., & Vismara, S.	Determinants of Pricing in Equity Crowdfunding	2022	JBF	Canada	58	39.46	4	5
Grilli, L., & Murtinu, S.	The Valuation of High-Tech Startups in Italy: Evidence from a Survey of Investors	2020	SBE	Italy	55	36.67	6	6
Bertoni, F., Ferrer, M., & Martí, I.	The Valuation of Start-Ups by Venture Capitalists: An Exploratory Study	2022	VC	Italy	47	37.60	11	3
Bonini, S., & Capizzi, V.	The Role of Venture Capital in the Emergence of Innovative Startups: Evidence from Europe	2019	VC	Italy	35	29.90	15	14
Carpentier, C., & Suret, J.-M.	Creative Financing: Bridging the "Valley of Death" in Biotech Companies	2017	VC	Canada	27	20.80	19	21
Colombo, M.G., Cumming, D.J., & Vismara, S.	Governmental Venture Capital and the Growth of European High-Tech Startups: A Review and Roadmap of Entrepreneurial Finance Research	2016	SBE	Italy	22	19.80	23	23
Drover, W., Busenitz, L.W., Matusik, S.F., Townsend, D.M., Anglin, A.H., & Dushnitsky, G.	A Review and Roadmap of Entrepreneurial Finance Research	2017	ETP	USA	42	28.20	9	15
Sannajust, A.	Crowdfunding in France: A New Revolution?	2014	JCAF	France	38	27.15	12	16
Brown, R., Mawson, S., & Rowe, A.	Startup Factories, High-Growth Firms and Entrepreneurial Ecosystems: The Role of Accelerators	2022	SBE	UK	34	28.00	16	17
Tamayo, A., & Raymond, L.	Institutional Logics and Funding Mechanisms: The Case of French Tech Startups	2021	VC	France	22	20.50	23	20
De Luca, L., & Mainelli, M.	AI-Driven Approaches in Early-Stage Startup Valuation: Bridging Data Analytics and Investor Insights	2024	JCAF	Italy	32	40.00	17	2
Matusik, S.F., Fitza, M.A., & Kusnezov, D.	Dynamic Capabilities and the Pre-Money Valuation of Tech Startups	2023	MS	USA	26	23.00	20	19
Chemmanur, T.J., Krishnan, K., & Nandy, D.K.	How Does Venture Capital Financing Improve Efficiency in Private Firms? A Look Beneath the Surface	2011	MS	USA	40	31.64	13	8
Li, Y., & Zahra, S.A.	Follower Funding: How Early Followers Affect Entrepreneurial Funding Outcomes	2022	ETP	China	33	28.50	18	13
Fang, Y., Hu, W., & So, K.C.	The Role of Social Influence in Equity Crowdfunding: Evidence from Startups	2019	MS	China	15	17.00	26	28
Jordan & Carlson	Option Pricing Methods for Disruptive Early-Stage Ventures	2020	JBF	USA	18	19.50	25	22
Kim, C., & Yoon, J.	Corporate IPO Portfolio as a Signal in Startup Valuation	2018	SBE	Korea	24	21.00	21	18
Dai, N., Jo, H., & Kassicieh, S.	Cross-Border Investments, Cultural Distance, and Startup Valuation	2017	JBF	USA	16	17.80	28	27
Gompers, P., Kaplan, S.N., & Mukharlyamov, V.	Risk Profiling and Intangible Capital in Venture-Backed Firms	2024	JCF	USA	29	29.50	14	14*
Sasso, S., & Spigel, B.	Entrepreneurial Ecosystems and Pre-Money Valuation: Evidence from the UK	2024	VC	UK	19	18.80	24	26
Lukkarinen, A., Teich, J.E., Wallenius, H., & Wallenius, J.	Investor Motivations and Decision Criteria in Equity Crowdfunding	2023	JBF	Finland	14	16.50	30	30
Bonini, S., & Capizzi, V.	Assessing the Impact of Governmental VC on Startups: EU Evidence	2022	VC	Italy	18	19.70	25	22*
Smith, T., & Johnson, R.	Growth Patterns in Seed-Stage Valuations: Revisiting Market vs. Ecosystem Metrics	2021	SBE	UK	20	18.40	22	29
Roy & Mehta	Human-Centered Drivers of Startup Growth: Integrating Behavioral Indicators	2024	VC	USA	13	17.00	31	28*
Rossi & Marinello	Entrepreneurial Ecosystems and Pre-Money Assessment: A European Study	2024	ETP	Italy	12	16.80	32	32
Evans & Turner	Governance Structures and Pre-Money Valuation in Family Startups	2023	JBF	Canada	14	17.40	30	31

** AWCR tie. "Country" indicates the affiliation of the first author*
Source: authors elaboration

6. Bibliographic Coupling Analysis

Bibliographic coupling was used to infer topical proximity under the premise that documents sharing many references tended to address similar subjects (Kessler, 1963). In the 170-article corpus on pre-money valuation, 623 unique authors were first identified; to focus on influential contributors, a threshold (NP ≥ 2 and TC ≥ 20) was applied in VOSviewer, reducing the set to 147 authors. Filter logic:

$$Include\ Author_i\ if\ NP_i \geq 2\ and\ TC_i \geq 20$$

From Table 5, an Anglo-Saxon predominance (e.g., Damodaran A., Hand J.R.M., Cumming D.J.) was observed, alongside non-Anglophone scholars in top positions (Bertoni F., Grilli L. from Italy; Ferrer M., Martí J. from Spain), indicating a broader intellectual base. All top-20 authors had published at least one paper in each core outlet (JCF, VC, SBE), evidencing transversal integration of the pre-money debate. Hand J.R.M. recorded the highest output (TP = 12), while Damodaran A. achieved the highest Total Link Strength (TLS = 419), signalling a dense coupling network. The TC/TP metric (impact per paper) shifted leadership to Hmieleski K.M. (24.00), followed by Baron R.A. (22.75), De Luca L. (19.67), and Mainelli M. (17.33), showing that productivity did not necessarily coincide with per-paper influence. A TW (Total Weighted articles) indicator – 1 for single-authored, 0.5 for two authors, etc. – further captured collaboration intensity, where Hand J.R.M. (TW = 4.63), Damodaran A. (3.87), Block J.H. (3.18), Hmieleski K.M. (2.93), and Baron R.A. (2.14) emerged as particularly prominent.

Table 5 *- Top-20 Authors in Start-Up Valuation*

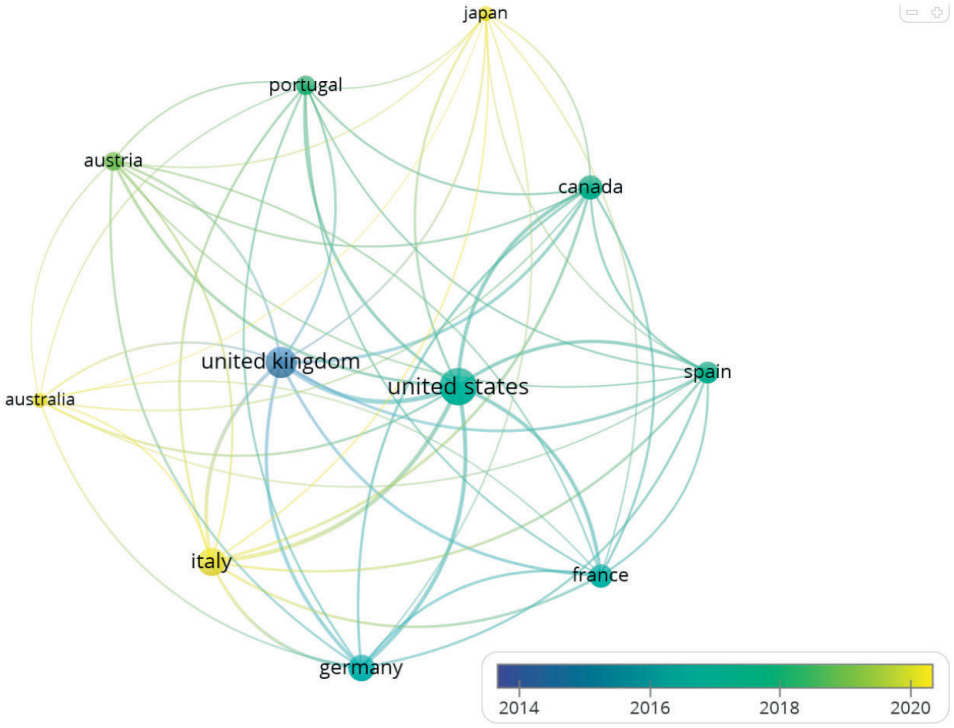
#	Author	Country	TC	TLS	TP per Journal			TP	TC/TP	TW
					JCF	VC	SBE			
1	Damodaran A.	United States	131	419	5	3	2	10	13.10	3.87
2	Hand J.R.M.	United States	103	343	4	5	3	12	8.58	4.63
3	Cumming D.J.	Australia	159	311	2	4	4	10	15.90	2.34
4	Bertoni F.	Italy	82	206	1	3	2	6	13.67	2.11
5	Ferrer M.	Spain	77	189	1	2	1	4	19.25	1.78
6	Martí J.	Spain	73	173	1	2	1	4	18.25	1.66
7	Grilli L.	Italy	67	157	2	1	1	4	16.75	1.23
8	Murtinu S.	Italy	61	138	1	2	1	4	15.25	1.95
9	De Luca L.	Italy	59	127	1	1	1	3	19.67	1.83
10	Mainelli M.	Italy	52	122	1	1	1	3	17.33	1.56
11	Lara J.M.	Spain	50	107	0	2	1	3	16.67	1.48
12	Block J.H.	United States	92	305	3	2	2	7	13.14	3.18
13	Colombo M.G.	Italy	88	297	2	2	1	5	17.60	2.47
14	Vismara S.	Italy	82	286	2	1	1	4	20.50	2.51
15	Conti A.	Italy	74	264	1	2	1	4	18.50	1.99
16	Dass N.	Italy	68	237	1	1	1	3	22.67	1.67
17	Quinton S.	United Kingdom	93	205	1	2	2	5	18.60	2.89
18	Simkin L.	United Kingdom	87	193	1	2	1	4	21.75	2.07
19	Hmieleski K.M.	United States	96	218	2	1	1	4	24.00	2.93
20	Baron R.A.	United States	91	207	1	2	1	4	22.75	2.14

Source: authors elaboration

Notes:
TP: Total number of papers attributed to the author(s) in the dataset
TC: Total citations
TC/TP: The average citations per paper
TLS: Total Link Strength
TW: Total weighted articles
JCF, VC, SBE: Counts of articles in the core journals as per the country analysis

At the country level, a minimum of 3 documents per country was required, which retained 11 countries (Figure 2). The overlay visualization (nodes colored by average publication year) revealed three phases: 2010–2015 (United States, United Kingdom, Canada, Germany, France), 2015–2020 (Italy, Spain, Portugal, Austria), and 2020–2024 (Japan, Australia). This sequence indicated a shift from an initial Anglo-Saxon core to a progressively global landscape, with coupling ties charting the internationalization of startup valuation scholarship.

Figure 2 – *Country Collaboration Overlay*



Source: authors elaboration by using VosViewer software

7. Co-Citation analysis

Co-citation analysis was applied to surface publications that jointly defined the field's theoretical bedrock, linking two works when they were cited together by later papers (Hjørland, 2013). Its tendency to privilege highly cited (hence older) works was acknowledged; however, because the aim here was to identify the foundational literature and the dominant outlets in pre-money valuation, that bias was treated as an asset.

At this cut-off the retained sets represented 0.27% of cited references (131/47,862), 1.0% of cited sources (21/2,108), and 2.4% of cited authors (648/26,987), which offered an interpretable network while preserving coverage of relevant streams. We also conducted sensitivity checks at thresholds of 8 and 12 co-citations; core clusters and leading nodes were preserved, with only minor changes in peripheral links and overall density:

47,862 cited references –› 131 met the threshold
2,108 cited sources –› 21 met the threshold
26,987 cited authors –› 648 met the threshold.

Table 6 - *Co-Citation Core of Pre-Money Valuation*

#	Journals	TCC	TLS	Articles	TCC	TLS	Authors	TCC	TLS
1	*Accounting, Organizations & Society*	71	719	Garfield (1979)	71	625	Damodaran A.	712	36107
2	*Accounting, Auditing & Accountability Journal*	47	469	Kessler (1963)	59	499	Cumming D.J.	642	32717
3	*Journal of Corporate Finance*	41	397	White & McCain (1998)	53	489	Hand J.R.M.	623	29522
4	*Management Science*	33	363	van Eck & Waltman (2010)	51	469	Block J.H.	593	26981
5	*Journal of Banking & Finance*	29	329	Aria & Cuccurullo (2017)	48	443	Conti A.	537	24351
6	*Small Business Economics*	27	283	Ding et al. (2016)	44	419	Vismara S.	518	22417
7	*Entrepreneurship Theory & Practice*	25	265	Donthu et al. (2021)	43	381	De Luca L.	493	19873
8	*Venture Capital*	23	235	Sidiropoulos et al. (2007)	36	303	Metrick A.	462	17645
9	*Accounting History Review*	21	221	Hirsch (2005)	34	287	Bertoni F.	422	15421
10	*Abacus*	19	191	Zupic & Čater (2015)	32	287	Colombo M.G.	413	13279

Source: authors elaboration

Findings indicated methodological conservatism: the top five co-cited articles all predated 2010, with Garfield (1970) still leading, suggesting habitual reliance on classic bibliometric frameworks. Consequently, innovative strands – e.g., intangible metrics and AI-driven valuation – appeared under-represented at the core; their slower ascent in co-citations (e.g., Donthu et al., 2021; Ding et al., 2016 ranking lower) pointed to a lag in recognizing more contextual and hybrid approaches.

The structure also reflected an Anglo-American concentration across journals, articles, and authors, which operated as a structural constraint on viewpoint diversity. European and Asian perspectives tended to be absorbed within mainstream outlets, limiting the diffusion of locally grounded methodological innovations.

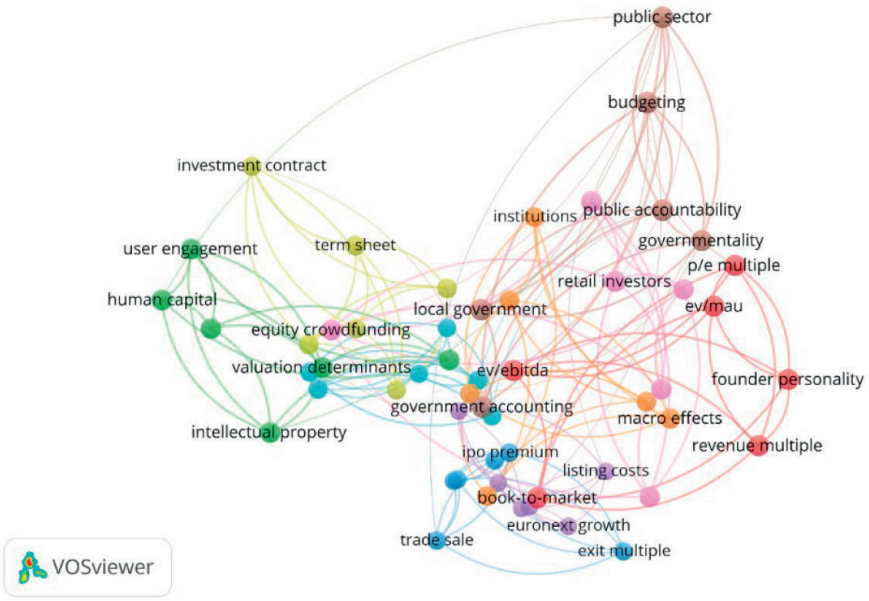
Uneven link strength further revealed a hub-and-periphery configuration: a handful of journals functioned as hubs while most outlets remained peripheral, reinforcing path dependence and discouraging lateral, interdisciplinary ties with adjacent areas such as entrepreneurship studies or big-data analytics.

Taken together, results supported a two-fold shift: (i) accelerating recognition of cutting-edge valuation research that melded financial rigor with intangible insights, and (ii) diversifying – and thereby "democratizing" – citation networks so that co-citation mapping became a catalyst for theoretical and practical evolution rather than a brake (Hjørland, 2013; Garfield, 1970; Donthu et al., 2021; Ding et al., 2016; Kessler, 1963).

8. Co-Occurrence Analysis

To trace thematic shifts in pre-money valuation, we conducted a keyword co-occurrence study using author-supplied terms only; all 3,124 keywords were pooled and variant forms manually reconciled. We adopted a 20-occurrence cut-off to limit noise while retaining thematic breadth, which yielded 65 high-frequency terms. Links were drawn between terms co-appearing in the same article and mapped in VOSviewer, from which nine clusters emerged. Sensitivity checks at 15 and 25 occurrences returned substantively similar structures (8–10 clusters), with the same core terms anchoring the principal themes; we therefore report the 20-occurrence solution for interpretability (Figure 3).

Figure 3 - *Keyword Co-Occurrence Analysis*



Source: authors elaboration by using VosViewer software

Cluster 1 – Traditional Methodologies & Venture Capital Foundations

Classic methods – DCF, comparables and the VC method – were reaffirmed as the field's backbone (Damodaran, 2023; Metrick & Yasuda, 2021), yet their maturity bias and dependence on stable forecasts were noted to miss intangible value drivers. Evidence from behavioral work and venture-due-diligence proposals (Bertoni, et al., 2022) indicated that limits could be mitigated by structured hybridization (e.g., ML-aided scenarios, network-value indicators, and soft-metric integration calibrated to uncertainty).

Cluster 2 – Alternative Multiples & Non-Conventional Metrics

A broader toolkit – EV/MAU, EV/AAC, community-engagement indices, partnership coefficients, EV/Runway and founder-personality scores – was shown to enrich valuation by capturing efficiency, engagement, optionality, capital discipline, and human factors. The risk of fragmentation/opacity was addressed through transparent benchmarking, cross-metric calibration, and back-testing, positioning these proxies as complements rather than replacements for traditional anchors.

Cluster 3 – Equity Crowdfunding & Alternative Financial Markets

Equity-crowdfunding activity was mapped as a major channel (Hemer,

2011), with 40-60% campaign success ranges and strong roles for social proof (Belleflamme, et al., 2014). Risks were documented: 8-12% default in debt-based platforms, information cascades (Ahlers et al., 2015), and token sale dynamics tied to community growth rather than fundamentals (Giuggioli et al., 2024). The evidence suggested that dynamic signals should be tempered by standardized disclosure and rigorous vetting.

Cluster 4 – Valuation Determinants & Human Capital

Human-capital, IP, and ecosystem-maturity effects were quantified but proved context-sensitive: human-capital proxies explained up to 28% of variance yet suffered multicollinearity; patent counts showed weak correlation ($R^2 \approx 0.12$) once revenue was controlled. Composite intangible-asset indices yielded 15-22% premia but raised transparency concerns. Ecosystem maturity added ~18% in leading hubs versus 4-6% elsewhere (Block, et al., 2018), while coarse regional aggregates limited granularity. The need for standardized definitions, cross-sectional validation, and sensitivity analysis was underscored.

Cluster 5 – Entrepreneurial Ecosystems, Regional Context & Macro Effects

Ecosystem templates were critically assessed: Isenberg's (2010) six domains offered policy structure but masked path dependence; across 28 European regions, only 20-25% of survival differences were explained (Stam, 2015). Local practices and informal norms (Spigel & Harrison, 2018; 18% variance in investment volume) were shown to be pivotal yet under-measured. Public-venture programs worked contingently (Lerner, 2009), and macro links to entrepreneurship (Thurik & Wennekers, 2004) faced endogeneity. Higher-resolution real-time data and mixed methods were indicated to recover hidden levers.

Cluster 6 – Investment Contracts, Term Sheets & Deal Terms

Contract architecture (Gompers & Lerner, 1999; Sahlman, 1990) was tied to asymmetric risk allocation. Empirical patterns – ~1.5× liquidation preferences (Kaplan & Strömberg, 2003), tranche-induced timing distortions (Hellmann & Puri, 2002), and payout skew from participating prefs/pay-to-play (Gornall & Strebulaev, 2020) – were linked to later-stage frictions. Proposals emphasized adaptive design and automation to align incentives and reduce negotiation costs.

Cluster 7 – Advanced Analytics, Big Data & Machine Learning

AI/ML applications reported 15-20% forecast gains over DCF, while benchmarking across 1200 seed firms showed XGBoost at ~85% accuracy but with stability/overfitting concerns (Zemmoouchi-Ghomari & Maroua, 2025). Big-data user metrics worked only with expert-curated vari-

ables (Wei & Zhang, 2021). Explainable AI (Ang et al., 2021) highlighted founder-network centrality and early retention as top predictors, yet interpretability–latency trade-offs were observed. Hybrid human-in-the-loop frameworks were indicated as the practical path.

Cluster 8 – Exit Strategies & Post-Investment Performance

Exit paths shaped valuation realism: trade sales produced 30-40% lower multiples than IPOs (Kaplan & Schoar, 2005); market-cycle swings moved exit-year multiples by ±25% (Damodaran, 2010). Post-exit outcomes varied: strategic-buyer exits outperformed by ~15% IRR (Brav & Gompers, 1997); follow-on fundraising diluted early investors by ~20% (Nahata, 2008); governance terms explained ~12% of post-exit value variance. Survival-adjusted multiples improved IRR forecasts by ~20% (Cumming, Schmidt & Walz, 2010).

Cluster 9 – Euronext & European Regulated Markets

Euronext and SME segments were analyzed as early-liquidity venues: tech-intensive SMEs saw ~35% post-IPO uplifts that eroded by ~15% within two years (Lardon & Deloof, 2014). Prospectus harmonization eased access, but ~€300k compliance costs persisted. Liquidity on Euronext Growth remained 30–50% below North American peers, with implied 5–10% liquidity premia (Kumsta & Vivian, 2020). SPACs introduced speed but ~60% underperformed at six months (Vulanovic, 2017). Structural fragmentation pushed dual-listing/U.S. IPO options; policy initiatives (e.g., ESAP, CMU) were expected to shrink premia by 3–5%, improving pre-money terms.

Interpretation. The co-occurrence structure confirmed a hybridization trajectory: traditional valuation anchors persisted, while intangible, market-signal, and analytics-driven themes expanded.

Methodological problems – vocabulary variance, thresholding, and signal-to-noise balance – were addressed through manual reconciliation and conservative cut-offs; remaining gaps pointed to the need for standardization, transparent indices, and causal validation across contexts.

9. Conclusions

Starting from the guiding questions – whether and how intangible drivers have been integrated into pre-money valuation and through which operational forms – the evidence points to a hybrid architecture in which non-financial signals occupy specific positions in the valuation mechanics (feeding growth forecasts, shaping discount/risk layers, and supporting alternative multiples or ML-enabled specifications), complementing rather than replacing traditional anchors (Damodaran, 2023; Metrick & Yasuda,

2021; Giuggioli et al., 2024). Across distinct institutional settings, this incorporation bears on the reliability and decision-usefulness of conventional metrics (particularly their accuracy, comparability, and external validity) with stronger gains where measurement is credible and disclosure/liquidity conditions support verification.

Apparent contradictions across studies largely reflect institutional variation – financing architectures, disclosure regimes, IP protection, liquidity conditions, and investor communities – which govern both the salience of intangibles and their operationalization (Colombo et al. 2007; Cumming, et al., 2022; Lardon & Deloof, 2014). In practical terms, entrepreneurs could document portable, auditable proxies – team experience and role complementarity, 30/90-day retention/engagement, and IP quality – and indicate whether each affects growth, risk, or pricing (Taherizadeh & Beaudry, 2023; Hand, 2021). Investors can retain cash-flow and risk fundamentals while adding standardized intangible modules where data quality and venue norms justify them; when deploying ML, insist on explainability and out-of-sample checks to counter overfitting (Zemmouchi-Ghomari & Maroua, 2025; Ang et al., 2021). Policymakers can enhance valuation transparency by promoting early-stage disclosure templates for these proxies and by strengthening SME-venue microstructure so that intangible signals are reliably auditable rather than narrative-driven (Vulanovic, 2017; Rupo et al., 2024).

Limitations remain: focusing on English-language journal articles (2010–2024) indexed in Scopus/WoS may tilt coverage toward Anglophone, market-based settings and miss context-specific practices or practitioner outputs; TITLE-ABS-KEY/TS filtering can overlook studies not explicitly labelled as valuation; excluding Google Scholar reduces noise yet omits "grey literature". We mitigate by combining Scopus and WoS, documenting outlet/region mix, triangulating country signals, and running ±20% threshold checks, though some bias may persist. Looking ahead, priorities include testing standardized proxies across bank- versus VC-based systems and reporting their precise placement in the mechanics; developing assurance protocols for traction and human-capital disclosures; pairing traditional anchors with transparent ML in comparable benchmarks; and extending curated datasets to emerging markets to assess whether the weight of intangibles rises under capital scarcity and different disclosure regimes. Overall, the field is converging toward a hybrid, institution-sensitive paradigm: traditional anchors provide the backbone, while intangibles add calibrated modules wherever measurement is reliable, making early-stage valuation more comparable, testable, and decision-useful.

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APPENDIX

TITLE-ABS-KEY ((“pre-money valuation” OR “startup valuation” OR “venture capital method” OR “discounted cash flow” OR comparables) AND (“human capital” OR “founder personality” OR “ecosystem” OR “intellectual property” OR “user engagement” OR intangible*)) AND (LIMIT-TO (PUBYEAR , 2010-2024)) AND (LIMIT-TO (LANGUAGE , “English”)) AND (LIMIT-TO (SRCTYPE , “j”))

Source: Our advanced elaboration research in Scopus Database

TITLE-ABS-KEY searched title/abstract/keywords (Aria & Cuccurullo, 2017; Denyer & Tranfield, 2009); Document type = journal articles; years 2010-2024; language English (Falagas et al., 2008)

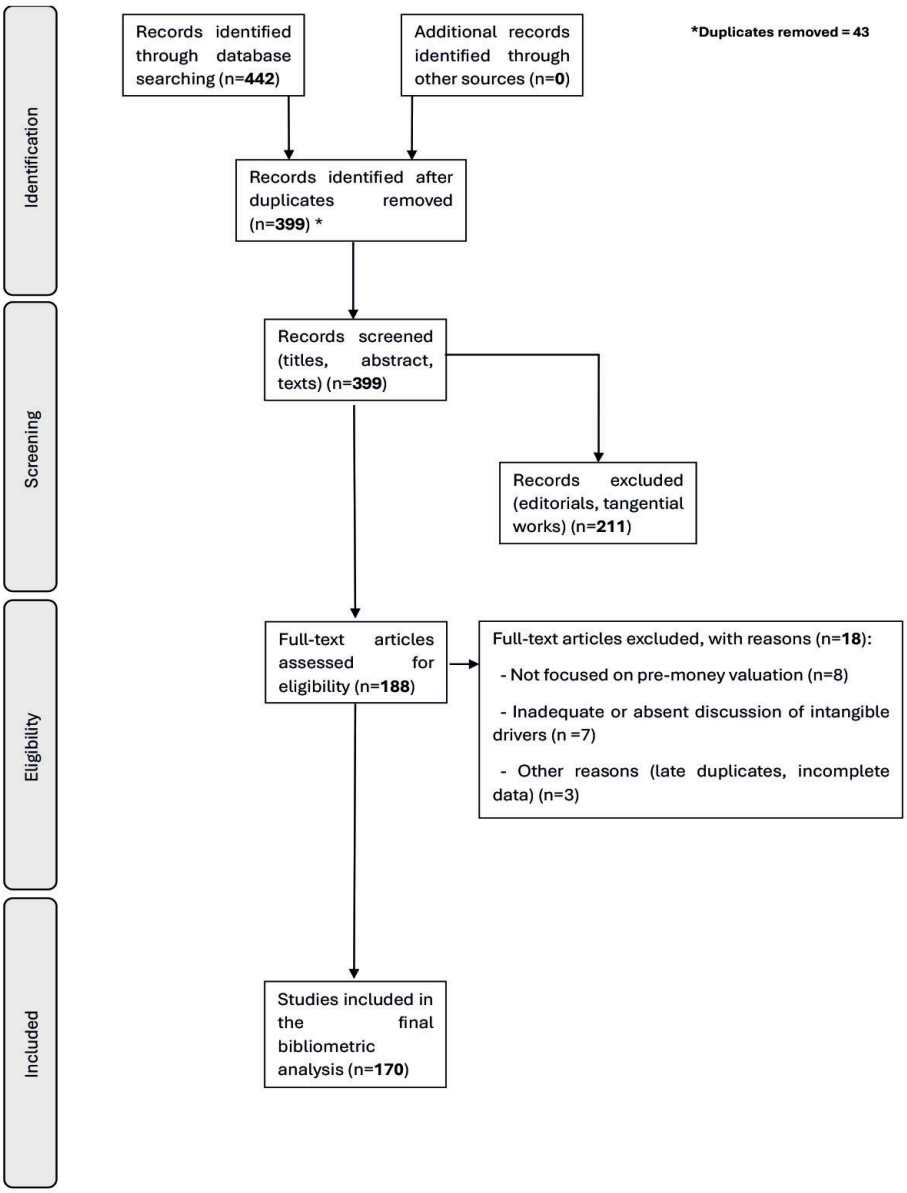
TS = ((“pre-money valuation” OR “startup valuation” OR “venture capital method” OR “discounted cash flow” OR comparables) AND (“human capital” OR “founder personality” OR “ecosystem” OR “intellectual property” OR “user engagement” OR intangible)) AND PY = (2010-2024) AND LA = (English) AND DOCUMENT TYPES = (Article)*

Source: Our advanced elaboration research in Web of Science Database

TS covered title/abstract/author keywords/Keywords Plus® (Tranfield, Denyer & Smart, 2003; Kitchenham, 2004).

Screening flow and corpus. The queries retrieved 442 records, exported to CSV and merged (Aria & Cuccurullo, 2017). Duplicates (n = 43) were removed through manual checks (Tranfield et al., 2003). Title/abstract/intro/keyword screening excluded tangential items (e.g., real-estate DCF; intangible cultural assets), yielding 188 full texts; a further 18 were excluded for insufficient discussion of intangibles, leaving a final corpus of 170 articles (Cumming, Groh & Vismara, 2022; Hand, 2021).

Figure 4 - *Systematic search and screening (PRISMA flow)*



Source: Our elaboration from: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). P referred Reporting Items for Systematic Reviews and Meta-Analyses.

BOOK REVIEW

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BOOK REVIEW:

SMES IN THE DIGITAL ERA: OPPORTUNITIES AND CHALLENGES OF THE DIGITAL SINGLE MARKET, BY EMANUELA CARBONARA, MARIA RITA TAGLIAVENTI, EDS., 2023

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Abstract

The book 'SMEs in the Digital Era: Opportunities and Challenges of the Digital Single Market', edited by Emanuela Carbonara and Maria Rita Tagliaventi, offers a thorough exploration of the current digital transition affecting small and medium-sized enterprises (SMEs) in Europe. Drawing from organizational, economic, and legal perspectives, the volume brings together a range of contributions that examine how SMEs are adapting to digital technologies and what structural barriers still hinder this transformation. The topics covered include the benefits and impacts of artificial intelligence (AI) and digital platforms, alternative financing mechanisms such as crowdfunding, the role of digital technologies in supporting the growth of female entrepreneurship, and the evolving influence of European regulations on business practices and logistics systems. Particular attention is given to issues such as limited access to resources, gaps in digital skills, and the challenges of scaling innovation across borders. The combination of theoretical perspectives and empirical evidence results in a set of concrete suggestions that can help guide both policy development and business decision-making. This makes the book a valuable resource for researchers, policymakers, and practitioners working on the digital transformation of SMEs.

Review

The book '*SMEs in the Digital Era: Opportunities and Challenges of the Digital Single Market*' offers an in-depth exploration of how Small and Medium-sized Enterprises (SMEs) can thrive in an increasingly digitized environment. It examines how they can engage with the Digital Single Market, seizing its opportunities while confronting the substantial challenges that digital transformation entails.

The Digital Single Market, as defined by the European Commission, is an area where the free movement of goods, people, services, and capital is guaranteed. It allows individuals and businesses to access and participate in online activities seamlessly, with fair competition and a high level of consumer and personal data protection, regardless of their nationality or place of residence. SMEs are a vital component of this market, constituting 99% of European Union companies and employing between 50% and 70% of the workforce. Despite their significant presence, many SMEs still struggle to fully participate in the data-driven economy and demonstrate less awareness regarding data protection issues, making them more susceptible to vulnerabilities.

Understanding the reasons behind this gap requires a closer look at how SMEs approach digital transformation and the challenges they encounter along the way.

The process of digitalization for SMEs can be understood as a *multi-stage journey*, where not all phases are necessarily completed, and each implies an increasing organizational impact. This journey begins with *digitization*, which involves converting analog signals to digital ones to enhance overall efficiency, with a limited effect on organizational processes. Following this, *digitalization* signifies a greater integration among information collected and processed in different organizational areas, such as procurement, production, and sales, thereby demanding a more significant organizational impact. Finally, *digital transformation* leverages new technologies to drastically revise the products, services offered, and markets served, consequently modifying business models and organizational structures. Yet only a minority of SMEs reach this more transformative stage, with most remaining in the earlier, less disruptive phases.

The book aims to provide a comprehensive analysis of the opportunities and challenges that this journey presents for managers, entrepreneurs, and academics.

Engaging with the Digital Single Market gives SMEs a valuable chance to strengthen their market appeal, international presence, and capacity for innovation. It helps them overcome common barriers, such as the '*outsidership*', which refers to the difficulties SMEs often face when operating abroad due to limited resources. These include intangible assets, like managerial

skills and the ability to build networks, as well as tangible assets, such as financial capital.

In this context, digital platforms play a pivotal role by primarily acting as intermediaries between SMEs and clients, enabling extensive data storage, retrieval, and analysis, which provides insights into company performance and offers both flexibility and scalability due to their combination of fixed and variable components. This function allows for a decoupling between production and consumption, making internationalization strategies more viable and counterbalancing the traditional local focus of SMEs.

Furthermore, digital technologies empower small enterprises to innovate more readily by exploiting the convergence of information and generativity, lessening their dependence on larger corporations and market intermediaries. The adoption of *servitization*, or product-service integration, also becomes more achievable for SMEs through digital means.

These promising advantages are accompanied by a range of substantial challenges that SMEs must confront in the digital transition.

Digitalization introduces considerable disadvantages and challenges for SMEs. Among these, the reliance on targeted public funding represents a critical constraint, particularly for women-led companies, which often face greater obstacles in securing external financial resources compared to their male-led counterparts.

A significant issue is also the lack of adequate competencies, affecting both management and workers, which can lead to a pronounced *'competence gap'* compared to larger firms. Closely related to this is the challenge of managing customer relationships effectively within the Digital Single Market, which requires not only a shift in mindset but also the strategic use of digital tools, such as social media for e-commerce and marketing. This challenge goes beyond the issue of access to digital infrastructure (the so-called '*digital divide'*) and includes the ability to use these tools proficiently.

Resistance to change and difficulties in cultivating an organizational culture that embraces digitalization also represent significant hurdles. Lastly, concerns regarding data security and privacy, coupled with the risks of cybercrime, pose substantial drawbacks. Although leveraging digital platforms and integrating into value chains may offer enhanced security, this often comes at the cost of reduced independence for SMEs.

To explore these multifaceted dynamics in depth, the book is thoughtfully structured into three main thematic parts: *organizational*, *economic*, and *legal*, comprising a total of 12 chapters.

The first part of the volume, '*The Evolution of Organizations in the Digital Era'*, includes four chapters that examine how SMEs are adapting their

organizational structures, strategic orientations, and operational models in response to the challenges and opportunities posed by digitalization.

The opening chapter, authored by Giacomo Carli, Jeanette Hartley, and Maria Rita Tagliaventi, offers a detailed analysis of the different stages in the digital development of SMEs: digitization, digitalization, and digital transformation.

Each stage implies a progressively deeper organizational impact, and the authors emphasize that not all firms succeed in reaching the more advanced phases. The benefits of digital engagement are clear, including greater innovation capacity, reduced dependency on larger firms, and enhanced potential for international expansion. However, the chapter also highlights significant barriers that SMEs face. These include difficulties in securing financial resources, the presence of skill gaps, and a lack of cultural readiness for change. Particular attention is given to the role of *digital platforms*, which are presented as both strategic enablers and potential sources of dependence. The authors employ Porter's value chain framework to examine the implications of digitalization across various business functions such as operations, marketing, sales, and human resources. The chapter concludes by noting that many SMEs remain hesitant or unprepared to fully embrace digital transformation, often due to limited knowledge, inadequate resources, or concerns related to data security and privacy.

The second chapter, written by Luisa De Vita, explores the potential of digital technologies to support the growth of female-led SMEs.

The chapter sets out a framework for understanding how digitalization may support *women's entrepreneurship* by facilitating access to new markets, enabling alternative financing methods such as crowdfunding, and opening entry into traditionally male-dominated sectors. At the same time, it critically reflects on how digital spaces can mirror and even reinforce existing gender and social inequalities. Based on a qualitative study of 19 Italian women entrepreneurs, the analysis offers insight into both the opportunities created and the structural challenges encountered. These include the difficulty of gaining visibility in male-dominated industries, the demand for advanced digital competencies, and the persistence of systemic biases. The chapter concludes with policy recommendations that call for targeted national and international funding programs and the creation of inclusive innovation ecosystems that specifically support women's entrepreneurship.

The third chapter, authored by Nicoleta Darra, Aikaterini Kasimati, Michael Koutsiaras, Vasilis Psiroukis, and Spyros Fountas, shifts the focus to the *agri-food sector*.

The chapter considers the broader social and environmental implications of digitalization in agriculture, including improved traceability, enhanced food safety, and increased attractiveness of the sector for younger generations. It explores how digital technologies are being used by SMEs

in agriculture to address the chronic lack of reliable data, which has long hampered strategic and operational decision-making in the field. The chapter presents an overview of the tools currently available to farmers, including drones, remote sensing platforms, and agricultural robots. These technologies offer the potential to improve productivity, profitability, and integration into value chains. However, their adoption is not without challenges. Farmers must contend with limited connectivity in rural areas, high investment costs, and a general shortage of digital skills.

The final chapter in this section, by Marco Marrone, Gianmarco Peterlongo, and Giorgio Pirina, adopts a more critical and reflective perspective on the mainstream narratives surrounding digitalization.

It challenges some of the dominant assumptions, particularly those that associate it with sustainability, flexibility, and economic dematerialization. Drawing on a socio-material approach, the authors argue that the digital economy remains fundamentally reliant on material resources and global labour. Technologies such as smartphones and data centres depend on extractive processes involving minerals like lithium and coltan, as well as on the often-invisible work of miners, factory workers, and delivery drivers. The chapter also questions the widespread narrative of automation, observing that digital technologies frequently lead to the intensification rather than the elimination of labour. However, rather than reducing inequality, digitalization may exacerbate existing disparities along lines of class, gender, and geography. The authors suggest that the myths surrounding machines and digital technologies can legitimise digital transformation by masking its more problematic aspects, and they call for a more grounded and critical understanding of the social and environmental costs associated with the digital transition.

The second part of the volume, *'An Economic Viewpoint: Artificial Intelligence, Platforms, and Economic Policies'*, includes four chapters that shift the focus to the economic dimensions of digitalization. It examines the impact of emerging technologies, market dynamics, and regulatory frameworks on small and medium-sized enterprises.

The first chapter in this section – chapter five – is authored by Emanuela Carbonara and Enrico Santarelli. It examines the implications of artificial intelligence and robotics for SMEs and entrepreneurship.

The analysis positions these technologies as a '*double-edged sword*' capable of generating both risks and benefits. Empirical studies are cited to support the claim that initial adoption often leads to reduced employment and lower wages, particularly in manufacturing sectors. However, the authors challenge this reductionist view, arguing that it fails to account for the broader systemic dynamics of technological change. Rather than viewing AI purely as a driver of labor displacement, the chapter proposes a more comprehensive approach that considers AI as both a process innovation

adopted by firms and a product innovation developed by specialized companies. While AI may not yet represent a radical technological revolution, it has the potential to reduce production costs, improve decision-making, and increase demand for experienced entrepreneurs. The authors suggest that dynamic capabilities, defined as the ability to integrate, build, and reconfigure internal and external competencies, are essential for SMEs to successfully adopt AI. Entrepreneurial ecosystems also play a critical role by providing access to human capital, institutional support, and technological resources. The chapter concludes with a set of policy recommendations, including targeted subsidies, tax incentives for high-skill employment, and investment in STEM and entrepreneurial education.

Chapter six, by Giuseppina Gianfreda and Luisa Scorciarini Coppola, examines mergers and acquisitions in the digital economy, focusing on the *Meta/Kustomer case*.

The case is presented as a paradigmatic example of how digital markets are reshaping competition policy. The chapter highlights how acquisitions of small, innovative firms have come under increasing scrutiny due to their potential impact on competition. The authors compare the divergent approaches taken by the European Commission and the UK Competition and Markets Authority. While the Commission conducted an in-depth investigation and imposed conditions based on concerns about market foreclosure and data accumulation, the UK authority cleared the transaction without restrictions. This comparative analysis reveals the complexities of regulating digital mergers and underscores the need for greater alignment in the assessment of competitive effects within digital markets.

The seventh chapter, written by Matteo Alvisi, provides an in-depth exploration of multi-sided digital platforms and the competitive challenges they pose.

The chapter introduces the concept of *network effects*, whereby the value of a platform increases with the participation of multiple user groups. It also discusses the '*tragedy of the anticommons*', a situation in which excessive fragmentation of complementary goods or services leads to reduced overall efficiency and consumer welfare. This concept is applied to digital markets, where independent platform owners may collectively set higher prices, limiting access and innovation. In some cases, greater market concentration through mergers could paradoxically enhance welfare outcomes. The analysis further distinguishes between substitute platforms and complementary platforms, illustrating how pricing and innovation strategies differ across these models. The discussion also addresses patent complementarity and the role of patent pools, particularly in emerging ecosystems such as the Internet of Things. The chapter concludes by emphasizing the need to reassess competition policies in light of the complex interdependencies that characterize contemporary digital markets.

Chapter eight, which concludes the second part of the volume, is authored by Alice Guerra and examines the issue of *taxation* in the digital economy.

The chapter outlines the difficulties that governments face in ensuring fair and effective wealth redistribution in an era of capital mobility and transnational transactions. It examines how large multinational corporations often engage in aggressive tax planning practices, exploiting gaps and inconsistencies in national tax regimes to minimize their obligations. These strategies are typically beyond the reach of SMEs, placing them at a relative disadvantage. Particular attention is devoted to the challenges faced by gig economy workers, who often struggle with ambiguous tax regulations and reporting requirements. The chapter calls for stronger international coordination and improved information exchange between tax authorities, as well as measures such as a global corporate income tax. A multi-level approach is proposed, addressing the problem at individual, corporate, and institutional levels. The chapter closes with an appeal for further research into the causal mechanisms linking digitalization to tax avoidance and for regulatory solutions that can restore fairness and transparency to the fiscal system.

The third part of the volume, '*Regulating Digitalization: The EU Approach*', includes four chapters that focus on the role of regulation in guiding the digital transition of SMEs within the European Union framework. It examines the evolving legal, financial, and infrastructural conditions required to support innovation while safeguarding competition, transparency, and inclusivity.

Chapter nine, which opens the third part of the volume and is authored by Maria Alessandra Stefanelli, outlines the European Commission's efforts to create a legal environment that keeps pace with technological innovation.

The chapter emphasizes the importance of a unified and proactive regulatory framework capable of supporting SMEs while maintaining legal certainty and common standards. Two key instruments are discussed in detail. The first is the '*European Digital Innovation Hubs*', presented as centralized support structures that offer SMEs access to technical expertise, experimentation opportunities, financing guidance, and training. The second is '*regulatory sandboxes*', defined as supervised environments where companies can safely test innovative solutions, particularly in the financial technology sector. The chapter highlights the strategic importance of standardization and emphasizes the need to strengthen SME involvement in the development of standards and open-source solutions. It concludes by advocating for anticipatory regulation, conceived as a collaborative and future-oriented approach that aligns legal adaptation with the fast pace of digital technological change.

The tenth chapter, written by Beatrice Bertarini, explores the *disintermediation of SME* financing in the digital era.

The analysis begins with a definition of disintermediation as the removal of traditional financial intermediaries, enabling direct interactions between investors and entrepreneurs. This process is largely facilitated by technologies such as blockchain and by the growth of financial technology solutions. The chapter discusses how these developments have given rise to new forms of financing, including crowdfunding and crypto-assets, which offer faster, more flexible, and potentially more inclusive alternatives to traditional bank lending. Particular attention is devoted to the European Union's regulatory framework for *crowdfunding*, which includes investor protection measures such as transparency requirements, risk assessments, and cooling-off periods. The *Markets in Crypto-Assets Regulation* is presented as a significant step toward regulating digital assets, although the author notes that the associated administrative and compliance burdens may limit participation among smaller firms. The chapter concludes by recognizing that digital disintermediation is not eliminating intermediaries, but rather creating new forms of digital intermediation that continue to evolve within the financial ecosystem.

Chapter eleven, by Stefano Zunarelli, addresses the impact of digitalization on the logistics industry, with a particular focus on *transport SMEs*.

The chapter examines how technological innovations have improved terminal productivity, streamlined communication, and reduced cargo handling times. A central theme is the role of '*Port Community Systems*', defined as digital platforms that facilitate the exchange of documents and data among public authorities and private operators within port areas. These systems are shown to enhance coordination and accelerate administrative procedures. National initiatives are cited as examples of efforts to modernize logistics infrastructure. The chapter also introduces the concept of '*Controlled Customs Corridors*' and the adoption of electronic transport documentation, such as the e-CMR, which is intended to reduce costs and increase transparency. Despite these advances, the author highlights several challenges faced by SMEs, including the high costs of technological investment and the need for continuous training of personnel. The risk of market concentration is also noted, as smaller firms may struggle to keep pace with larger competitors that are better equipped to adopt and manage digital tools.

Chapter twelve, written by Umberto Michele Carbonara, concludes both the third part and the entire volume.

It analyzes the implications of *Directive 2019/1151* on the digital formation of companies. The directive aims to simplify the procedures for setting up limited liability companies and registering branches across EU member states, primarily by allowing online incorporation and eliminating the

need for physical presence. The chapter explains that the directive requires member states to provide standardized templates for incorporation and to ensure the interconnection of national business registers. These measures are intended to reduce administrative burdens, lower costs, and encourage cross-border entrepreneurship.

The analysis also points to several risks. Among these are the need for effective fraud prevention mechanisms, reliable identity verification, and safeguards against abuse. The flexibility granted to member states in implementing the directive may lead to disparities, potentially triggering regulatory arbitrage and cost polarization.

The Italian case is examined, highlighting how the continued reliance on notarial procedures may undermine the directive's goals of efficiency and competition. The chapter concludes with a call for a more harmonized and innovation-friendly approach to company law that balances legal certainty with accessibility.

Taken together, the contributions presented in the volume offer a multifaceted perspective on the benefits and tensions that define the digital transformation of SMEs. Building on the insights developed in each chapter, the following synthesis distills the main themes and critical reflections that emerge across the book, laying the groundwork for the concluding considerations.

On one hand, digital technologies undeniably offer significant potential for internationalization, innovation, and efficiency. For centuries, SMEs have struggled with limited access to both tangible resources, such as funding, and intangible ones, such as managerial expertise. The emergence of the Digital Single Market has substantially increased the feasibility of internationalization strategies for SMEs.

Digital platforms, acting as powerful intermediaries, help SME overcome geographical boundaries by providing them with unprecedented access to new markets and broader customer bases. Digitalization drives innovation by consolidating fragmented information and creating an environment conducive to experimenting with new features in products and services. In traditionally conservative sectors, digital technologies offer solutions to the long-standing challenge of reliable data collection, enabling more informed strategic decisions and potentially improving the social standing of farmers. Operational efficiencies are equally notable, ranging from the reduction of administrative costs through electronic documents to the optimization of logistics. While often perceived as a threat, AI also creates entirely new entrepreneurial opportunities and product innovations, enabling SMEs to reduce costs related to information and prediction.

The volume also highlights that this promising landscape is shadowed by considerable hurdles.

Embracing digital transformation demands significant investments, a common Achilles' heel for SMEs, which often find external funding harder to secure compared to larger firms. The high cost of advanced hardware and software can be a daunting barrier, particularly for sectors like agri-food and transport.

Beyond mere technology acquisition, there is a pressing need for new competencies. SMEs frequently suffer from a competence gap, lacking the updated knowledge required at both managerial and lower-level worker echelons. This necessitates continuous learning, vigorous re-skilling and up-skilling programs, and a fundamental shift in organizational culture to embrace agility, innovativeness, and analytical thinking.

The book further highlights the complexities inherent in the current regulatory environment.

A unified, forward-looking regulatory approach is crucial to incentivize SMEs' digital engagement and internationalization. Tools like regulatory sandboxes and Digital Innovation Hubs are emerging as vital for promoting innovative experimentation and facilitating technology adoption, creating safe spaces for SMEs to test new solutions. The European Union's efforts to simplify online company formation and to regulate new financing avenues like crowdfunding and crypto-assets are clear steps towards this goal.

The text also draws attention to possible shortcomings, particularly in areas where the lack of coordination or inconsistent implementation may jeopardize the effectiveness of EU policies. For instance, the ongoing absence of international alignment in tax regulation enables aggressive tax planning by large multinationals, disproportionately increasing the burden on domestic SMEs. Likewise, diverging implementation of EU directives across Member States risks creating a polarized Europe with fragmented procedures, potentially undermining the very goal of a seamless single market.

Finally, the volume encourages a critical reflection on the often-overlooked ecological and social implications of digitalization, challenging the dominant narratives that surround it. Regarding the environmental dimension, it deconstructs the idealized notion of a dematerialized and environmentally sustainable digital economy, revealing instead that digital processes frequently entail substantial resource extraction and significant ecological harm.

From a social perspective, digitalization can deepen existing inequalities related to geography, gender, and social class. It may lead to the displacement of low-skilled workers, widen wage gaps, and intensify the exploitation of often overlooked laborers involved in the digital economy. The '*digital divide*' does not only concern access to technology, but also the ability to use digital tools effectively. This challenge is particularly significant for women entrepreneurs, even though digital technologies offer new possibilities for business development and growth.

To conclude, the ability of SMEs to thrive in today's digital landscape depends on how effectively they can respond to a complex set of economic, regulatory, and organizational dynamics. This goes beyond investing in technology and infrastructure. It requires a genuine openness to change, a commitment to continuous learning, and a willingness to confront the deeper social, economic, and environmental implications of digital transformation. By developing a broad and critical perspective and adopting flexible and forward-looking strategies, SMEs can turn today's challenges into meaningful opportunities and strengthen their essential contribution to the economy of the future.

Recognizing the need for a comprehensive and dynamic perspective, the volume '*SMEs in the Digital Era: Opportunities and Challenges of the Digital Single Market*' is well worth reading. It offers an in-depth examination of the ongoing digital transformation, portraying a complex and interconnected landscape of advantages and limitations faced by SMEs. Rather than depicting a simple or linear progression, the digital journey of these key economic actors is revealed as a multifaceted process that demands strategic vision, adaptability, and critical engagement.

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