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Overseas benchmarking for startup ecosystems in Central and Southern Italy

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Abstract

The success of startups is intricately linked to the ecosystem they operate within. It is thus critical to unpack the concept of the startup ecosystem, a task that demands scholarly and professional insight. There is a keen interest in dissecting the dimensions and components of these ecosystems, with a particular focus on those known to be startup-friendly. The motivation for this scrutiny comes from patterns showing that high-performing startups are predominantly clustered in specific global regions—a hardly coincidental phenomenon. This paper aims to explore these thriving ecosystems, drawing parallels to the Italian context, especially that of the south. R.Q.: *Can comparing Italian startups with Silicon Valley reveal growth best practices?* Utilizing a combination of primary and secondary interviews, this study benchmarks the southern Italian startup ecosystems against the renowned Silicon Valley. Despite Silicon Valley's occasional tumultuous phases, it maintains its stature as a benchmark of excellence. This comparative analysis seeks to extract best practices results from Silicon Valley, which, despite its challenges, continues to be a significant point of reference for emerging startup environments.

Keywords Startup · Ecosystems · Benchmark · Italy · Silicon Valley · Entrepreneurship

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Introduction

The rapidly expanding global startup ecosystem stands as a powerful testament to a new wave of innovation and entrepreneurship, signaling a paradigm shift in economic dynamism and technological advancement, drawing considerable attention from the academic community (Aidis & Welter, 2008; Reis, 2011; Matricano, 2016; Haltiwanger, 2022; Greco, 2023a, b). According to Welter et al. (2019, p. 326): "the world changes: indeed, it changes in part as a result of entrepreneurship," a telling indicator of this trend's significance is the substantial growth and impact of the sector, particularly in Italy. As of 2023, Italy proudly houses approximately 15,000 startups registered in the Italian Business Register's special section (registrodelleimprese.it, 2023), with these ventures amassing roughly 1 billion euros in venture capital. These startups, on average, report a turnover of 167,000 euros and are responsible for employing nearly 60,000 individuals across various managerial and operational roles (Economyup, 2022; Sole24ore, n.d., Mise, Startupitalia, 2023). The Italian incubation and acceleration landscape is equally dynamic, featuring around 230 entities, 62 of which received certifications from the Italian Ministry of Economic Development (MISE) in 2023. These incubators and accelerators are diverse, with approximately half categorized as "Business Incubators'' and the remainder as either "Mixed" or "Social Incubators" (Startupitalia, 2023). The European startup scene mirrors this upward trajectory, hosting close to 300,000 startups within roughly 1,100 incubation and acceleration programs and contributing to creating about 40,000 jobs (Genome, 2023). However, when compared to the United States—home to 5 of the world's top startup ecosystems (Silicon Valley, Seattle, Boston, New York, and Los Angeles)—the scale and prominence differ notably, as evidenced by Genome's top 20 rankings (Genome, 2023), which include only Milan and Turin from Italy.

This disparity underscores the need to critically analyze the factors that distinguish leading startup ecosystems from emerging ones, particularly in regions like Southern Italy, where challenges are more acute. Despite the extensive literature on startup ecosystems as an emerging field (Blank and Engel, 2016; Motoyama & Knowlton, 2017; Tripathi et al., 2019; Dymchenko et al., 2022), there remains to be a paucity in identifying the critically unique dynamics, The existing gap in comprehension has precipitated a notable deficiency in a holistic theoretical framework for startup ecosystems, leading to a dearth of actionable managerial strategies that could be effectively implemented in practice.

Therefore, this study's central research question is: "*How can benchmarking Central and Southern Italian startup ecosystems against global centers of excellence like Silicon Valley reveal best practices for their development*?" Benchmarking against top-tier ecosystems is a promising approach to identifying critical success factors. Nonetheless, such benchmarking must be contextualized with rigorous research that delves into startup ecosystem participants' distinct characteristics, origins, and operational methods. Understanding how these factors collectively influence the emergence and growth of startups is crucial. This comprehensive approach will not only fill existing gaps in the literature but also provide actionable insights and strategies to empower startup ecosystems in Italy and similar regions, fostering innovation and economic development on a broader scale.

Literature review

Over time, scholarly examinations of startup ecosystems have delved into various facets of the phenomenon, progressively uncovering a tapestry of attributes that define these entrepreneurial landscapes. This multifaceted analysis has enriched the complexity and the nonlinearity of the subject, thereby enhancing its scholarly intrigue and the breadth of its academic discourse.

Motoyama and Watkin's (2014) conceptualization is notably captivating for those endeavoring to systematize the field due to its encompassing scope, which facilitates the classification of startup ecosystems. They describe the startup ecosystem as a "*segment of an entrepreneurial ecosystem"* (p.4) where there are particular key connections with other entrepreneurs, support organizations, and institutions critical for new firms to succeed and that play a key role within the community of start-up businesses.

For this research, the author presents a literature review synthesized through three primary variables consistently recognized in prior research and corroborated by fellow scholars in startups and entrepreneurship. This classification cuts across the diversity that has become apparent over time. It organizes the main theoretical contributions of Startup Ecosystems according to their focus on *Financial Resources*, *Strategic Actors*, *Cultural Contexts*, and. The division into three sections is not based on the author's interpretative choices. However, it follows a logical structure of the nature of contributions found when reviewing the literature on startups chronologically from the earliest studies. By examining these dimensions, the authors illuminate the varying degrees of importance that scholars have attributed to specific components and factors over others in the study of Startup Ecosystems.

Financial resources

Financial resources are crucial for the proliferation of startups. To understand the significance of a robust financial structure for startup enterprises, consider one of the main definitions referred to by scholars, namely that of Steve Blank: " a start-up is a temporary organization used to search for a repeatable and scalable business model" (Blank, 2016, p.5; Blank & Dorf, 2020). Scalability presupposes employing an innovative and technological framework for its achievement (Greco, 2023a, b), which undoubtedly requires financial resources.

It can be asserted that research on the financial needs of startups emerged almost concurrently with the inception of the startup phenomenon and the ecosystems within which these entities develop. Consequently, we have placed them at the forefront of this literature review.

Already in 2000, Shane and Venkataraman, in one of the most internationally cited works on finance and entrepreneurial ventures, addressed the financial variables of startups. They do not treat it as an isolated aspect but relate it to the ability to identify opportunities for earlier development and to implement more successful strategies (Shane & Venkataraman, 2000). Among the first scientific contributions that focus on financial resources for startups, it is essential to mention the work of Mann and

Sanyal (2010). This study uses the Kauffman Firm Survey (2004)[1] To explore how startup asset characteristics, information, and entrepreneur attributes influence the initial financial structure, revealing distinct patterns based on asset types, founder demographics, and business sectors.

Mengel and Wouters (2015) examine the precursors to the implementation of financial planning and control systems in extremely small and nascent start-up companies and subsequently investigate the impact of these systems on their performance.

Zahara (2021) analyzes the Resource-Based View (RBV) in the context of independent startups, emphasizing their unique resource management challenges. It questions assumptions in RBV research and suggests integrating entrepreneurship frameworks to enrich the understanding of startups' strategic resource use. Among the most recent studies, we reference that conducted by Fiorentino et al. (2021) which investigates the impact of innovation on startup performance, highlighting the indispensable role of financial support for innovation. Employing advanced regression and propensity score matching on a unique dataset demonstrates that innovation levels significantly influence startup growth, emphasizing the importance of innovation inputs over outputs for maximizing startup potential.

Particularly pertinent to the aims of this study is the work of Lawson and Ruderham (2009), which addresses the differences in how entrepreneurs can access fundraising, varying both over time and across different regions of the world.

Strategic actors

Scientific works focusing on the actors within the startup ecosystem are particularly cutting-edge, as they acknowledge this ecosystem's comprehensive and crucial components. These include not only the startups and the end market but also the organizations supporting them and all elements of the social context that contribute to the vitality and prosperity of the ecosystem. This holistic approach is exemplified in the research by Mele and Russo Spena (2018), which emphasizes the importance of considering all parts of the social context in understanding the dynamics of the startup ecosystem. In startup ecosystems, the actors that constitute strategic components for the proliferation of startup enterprises are undoubtedly business incubators and accelerators, as well as universities engaged in early entrepreneurship (Greco, 2023a, b). Naturally, it is also essential to refer to university-based incubators and accelerators (Stal et al., 2016; Kolympiris & Klein, 2017; Greco & Tregua, 2022).

The literature review must concentrate on the primary meanings of incubator and accelerator. Accelerator refers to a structure that is dedicated to organizing the expansion and advancement of start-ups via the provision of financial resources, tangible capital, and skill transfer (Bruneel et al., 2012; Cohen & Hochberg, 2014; Tripathi et al., 2019).

[1] The Kauffman Firm Survey (KFS) is a panel study of 4,928 businesses founded in 2004 and tracked over their early years of operation through 2011. KFS focuses on the nature of new business formation activity, characteristics of new businesses' strategy, offerings, and employment patterns, the nature of these businesses' financial and organizational arrangements, and the characteristics of their founders.

Indeed, many distinctions can be made between accelerators and incubators based on the timing of intervention, the fundraising phases (Bruneel et al., 2012) or private and public nature (Grimaldi & Grandi, 2005), universities-based accelerators (Mele et al., 2020; Petretto, 2008) and those one linked to communities (Ciappei & Sani, 2006). However, there are two things to think about that are more important than the list of distinctions among these groups. The first is the applicability of how two distinct scholarly perspectives on business incubators have evolved, each of which is influenced by the cultural distinctions among the world's continents. The literature distinguishes between two competing conceptual models: The first, referred to as "European" (Chengappa & Geibel, 2014), describes incubators that are primarily funded by public monies and concentrate on social development goals at the local level. As an alternative, the second model, dubbed "Anglo-Saxon," describes private structures and is primarily concerned with the growth of technical start-ups to attract investment and then share in future economic outcomes (Cohen et al., 2019).

In parallel, the University can be classified as an intermediary in the start-up ecosystem in the research subject with a larger view (Mele & Russo Spena, 2019).

Many academics who have focused their research on the relationship between these institutions and new entrepreneurship have become more interested in the possibility that universities can become actors in the economic development of a country through the offer of educational training activities, technology transfer, and the provision of services to start-up companies in recent years (Clarysse et al., 2005; Petretto, 2008; Fetters et al., 2010).

Cultural context

In the cultural milieu that fosters the growth of startup ecosystems, multiple facets are present. These include the predisposition of the community members towards technological engagement, their proclivity for creative endeavors, and the extent of innovation literacy prevalent within the environment.

In Silicon Valley's entrepreneurial ecosystem, a hub of technological innovation, cultural factors play a crucial role. The abundance of technical talent and the propensity for alliances and technological ecosystems are key cultural aspects that drive technological progress and innovation in the area (Greco, 2023a, b). The triple helix model, incorporating interactions between academia, industry, and government, is another vital aspect of startup ecosystems. Champenois and Etzkowitz (2018) emphasize the balanced configuration of the triple helix structure, where the three institutional spheres act in partnership, take joint initiatives, and form hybrid organizations that promote innovations. This model underscores the cultural importance of collaborative and cooperative relationships among these spheres for fostering innovation and growth in startup ecosystems. In their systematic literature review, Kansheba and Wald (2020) highlight that entrepreneurial ecosystems are under-theorized and dominated by conceptual studies, primarily focusing on technology-based industries in Western economies. Their work reveals existing theoretical and empirical gaps in research on entrepreneurial ecosystems, offering avenues for future research. Stam and Van de Ven (2021) offer a comprehensive framework for analyzing success fac-

tors in startup ecosystems, emphasizing the importance of cultural variables in shaping entrepreneurial success. Their findings highlight the strong correlation between the prevalence of high-growth startups in a region and the quality of its cultural entrepreneurial ecosystem.

The literature indicates a broad correlation between novel enterprises and cultural variables. As the field continues to evolve, further research is needed to deepen our understanding of these complex cultural interactions and their impact on the global entrepreneurial landscape.

Methodology

The methodology of this study begins with a foundational gap analysis (Jennings, 2000; Kim & Ji, 2018) that primarily aims to understand how the concept of startup ecosystems has been addressed and positioned in the existing literature. This initial gap analysis is crucial for determining the appropriate methodological tool to employ to fill the identified gap (Kim & Ji, 2018). In exploring the topic, which primarily concerns the characteristics and components of the startup ecosystem, along with the newness of the discourse, the author has chosen a qualitative methodology (Dubois & Gadde, 2002). This approach aligns with prior research in entrepreneurship, like the work of Goyal et al. (2016). It involves a multi-stage analysis process that begins with contextual framing followed by an in-depth examination of the subject.

The preliminary investigation and the comprehensive review of existing literature on start-up ecosystems have revealed certain lacunae in prior research. These gaps, which need to be addressed, pertain to critical aspects of start-up ecosystems that need to be sufficiently explored or understood in the academic discourse. This identification of unexplored areas not only highlights the need for further in-depth studies and opens up new avenues for research that could significantly contribute to our understanding of start-up ecosystems. Such insights are crucial for developing a more holistic and nuanced perspective of the dynamics within these ecosystems.

The first notable gap in existing research pertains to the tendency of even recent studies to understate the distinctiveness of new innovative business ventures within the broader context of entrepreneurship. This oversight is significant, as traditional literature on entrepreneurship has, for many years, regarded the emergence of innovative startups as merely a minor element within the vast entrepreneurial landscape (Schick et al., 2002; Kropp et al., 2008; Brown & Mason, 2014). Contrary to this perspective, our study aims to elucidate that startup ecosystems, unlike traditional entrepreneurial environments, possess unique characteristics and involve specific key players that differentiate them markedly from conventional entrepreneurial ecosystems. This distinction is critical, as it underscores the need for a tailored approach to understanding and fostering startup ecosystems, acknowledging their unique dynamics, challenges, and opportunities, which also differ significantly based on their respective territorial contexts. Another gap identified in the analysis is the tendency of past literature to equate startup ecosystems with the phenomenon of business incubators and accelerators (Tasic et al., 2015; Greco et al., 2019; Cohen et al., 2019). However, this study is uncovering that startup ecosystems are, in fact, far more com-

plex and multifaceted. Business incubators, while strategically significant, within these ecosystems, represent just one component. This realization calls for a broader and more nuanced understanding of startup ecosystems, recognizing the diverse elements and interactions that constitute their unique environments. The contributions examined in this gap analysis have been instrumental in constructing a foundational body of literature and have served as a crucial impetus for advancing studies in this field.

An initial screening of start-up ecosystems was performed to frame the scenario of literature and reference reporting (Genome 2023); the Evidence of these ecosystems was combined with the key themes arising from the literature to outline our research process. This initial screening identified three primary variables: financial resources, strategic actors, and cultural context. These variables guided the extraction and reporting of Evidence in the final stage of the semi-structured interviews (Cassell et al., 2006; Camuffo et al., 2012; Greco et al., 2022; Dixit et al., 2023), which included both direct interviews conducted by the author and secondary interviews available through online materials and bibliographic sources (Chioda & Tripepi, 2021; Startupitalia.eu, 2023; Sole24ore.it, n.d.; Economyup.it, 2022). All interviews, including both the selected ones and those conducted by the author, were carried out using narrative analysis (Maitlis, 2012; Nasheeda et al., 2019). This qualitative research method enabled an in-depth exploration of the interviewees' experiences and perspectives, allowing for a richer understanding of the various dimensions and dynamics within the startup ecosystems being studied.

For the benchmarking purpose of this study, three startup ecosystems have been selected, each distinctly different from the others. The first two are Italian ecosystems, which, despite having contrasting operational models, are situated within a similar economic and cultural context in Central and Southern Italy. The third ecosystem, arguably the most significant globally, is that of Silicon Valley. It was chosen due to its operation within a cultural and economic scenario that is markedly different from the Italian context. Notably, the first two selected startup ecosystems do not receive mention in the primary global report on international startup ecosystems (Report Genome, 2023), whereas the third, Silicon Valley, is ranked first in the same report (Fig. 1).

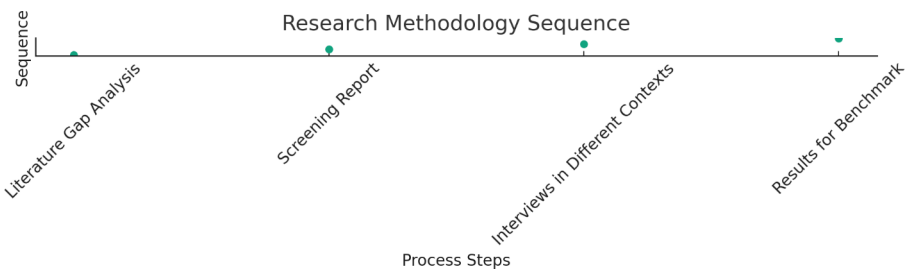

Fig. 1 Steps in the research process

Findings

Having delineated the objectives of the various research levels, we now present the substantive highlights of our findings in tandem with the research process. It is important to note that the analysis and literature gap was previously articulated in the background and methodology sections. Consequently, this section focuses on the empirical Evidence gathered from different sources. This includes insights from reports, interviews with founders of startups, directors of accelerators and incubators, and academics specializing in startups. These findings are drawn from all three analytical contexts: Central and Southern Italy (including specific reference to Naples and Rome) and internationally, from Silicon Valley. By aligning the presentation of our results with the progression of the research process, we ensure a coherent and comprehensive understanding of the startup ecosystems in these varied geographical settings. This approach not only reinforces the integrity of our research but also highlights the nuanced differences and similarities across these diverse ecosystems. Naturally, representatives from Italian organizations were more readily available and interviewable. In contrast, for Silicon Valley, we opted to interview individuals with "cross-disciplinary" expertise that reflected the domains of the Italian organizations.

Evidence from global reports

Based on the information from the Global Startup Ecosystem Report (GSER) 2023, several key insights and trends can be drawn about the startup ecosystems, including those in Central and Southern Italy and Silicon Valley. The GSER 2023 comprehensively analyzes startup ecosystems worldwide based on data from over 3.5 million startups across 290 global ecosystems. The report highlights that Silicon Valley maintains its top position among global startup ecosystems, which is consistent with its long-standing reputation as a leading hub for technology and innovation. In contrast, the startup ecosystems in Central and Southern Italy are not explicitly mentioned in the top global rankings. However, it is essential to note that the Italian ecosystems could be part of the broader analysis of European or emerging ecosystems. The GSER 2023 ranks ecosystems based on a weighted average of several factors, including performance, funding, market reach, connectedness, talent and experience, and knowledge. This comprehensive approach takes into account various aspects of an ecosystem, from the value and success of startups to access to funding, market potential, and the availability of skilled talent. Silicon Valley's continued dominance can be attributed to its high performance in these areas, particularly in funding, market reach, and the concentration of talent and experience. In contrast, the ecosystems in Central and Southern Italy, while growing and developing, may have different strengths and challenges, possibly focusing more on regional market reach, local connectedness, and leveraging unique sectoral focuses that reflect their cultural and economic contexts. It is evident from the GSER 2023 that startup ecosystems vary significantly across different regions, with each ecosystem having its unique characteristics and dynamics influenced by local and global factors.

Main evidence from interviews

Startup' founders

The interviews with startup founders were conducted following the three reference variables identified by the study: financial resources, strategic actors, and cultural context. The results are derived from interviews with six startup founders, three in Rome and three in Naples, across various sectors. This approach provided a diverse perspective on the different challenges and opportunities faced by startups in these two Italian cities, emphasizing the unique aspects of each ecosystem about the identified variables.

The interviews with startup founders from the ecosystems of Naples and Rome have yielded insightful findings, particularly about the adaptive strategies these startups employ within their respective environments, guided by the three reference variables of financial resources, actors, and context. From Naples, the founder emphasized a strategic decision to eschew fundraising efforts, including venture capital and debt markets, in favor of organic growth. This approach reflects a deliberate choice to maintain independence and control over the company's development path rather than external investment. Conversely, the founder from Rome highlighted a contrasting strategy of actively seeking new investors to boost the company's pre-money value. This proactive capital market engagement is aimed at attracting investors with the promise of quick returns on their investment, showcasing a more aggressive growth approach. The role of incubators in both ecosystems also came to light during the interviews. In Naples, the startup benefited from the incubator's guidance toward business development and the provision of valuable entrepreneurial skills. This support was fundamental in the startup's journey from an academic project to a business reality. In Rome, the startup's journey began with a notable event, 'Rome Startup Week,' and continued with incubation support that provided not only funding but also essential services. The initial investment fund played a crucial role in the company's early-stage development, illustrating the importance of financial and strategic support in these ecosystems. These narratives from the founders of startups in Naples and Rome offer a window into the varied paths startups may take within their ecosystems, shaped by local resources, strategic actors, and cultural context. They underscore the heterogeneity of startup development strategies and the pivotal role that incubation and investor engagement can play in shaping a startup's trajectory.

> *"…The incubator has provided our startup with business orientation and facilitated connections with various stakeholders capable of imparting significant entrepreneurial expertise, particularly in the realm of business development…"* (Founder of a Naples startup)
>
> *"…The journey for our startup began during the Rome startup week and continued with the initial phase of incubation at accelerators. Here, we received an initial 80k in a combination of cash and services. This was funded by the first investment fund, which subsequently became an integral part of our capital structure…"* (Founder of a Rome startup).

Gleaned from interviews with founders of Silicon Valley startups, it is clear that financial resources, strategic actors, and the local cultural context are pivotal elements shaping their entrepreneurial journeys. These founders often cite the unparalleled access to financial capital in Silicon Valley as a critical enabler for rapid scaling and innovation. The venture capital environment in this tech haven offers more than just funding; it provides a platform for ambitious startups to take calculated risks and push technological frontiers. Discussions with these founders reveal the profound influence of strategic actors within the Silicon Valley network. The mentorship from industry veterans, collaborative opportunities with tech behemoths, and advice from specialized consultants are integral to a startup's success, according to these narratives. These strategic actors are not mere contacts but are partners in innovation, providing critical support and opening doors that might otherwise remain closed. Moreover, the cultural context of Silicon Valley is often highlighted in these interviews as a distinctive factor that permeates every aspect of a startup's operation. Founders talk about a culture that fosters creativity, embraces diversity, and is resilient to the fast-paced nature of tech entrepreneurship. This context forms a backdrop against which startups are encouraged to challenge norms, prioritize agility, and continuously evolve to meet the ever-changing demands of the market. Through the lens of these founders' experiences, one can discern that Silicon Valley is not just a physical location but a confluence of financial, strategic, and cultural forces that collectively enhance the probability of startup success. The founders' insights underscore the need to strategically harness these forces, with a strong emphasis on the synergy between the abundant resources and the vibrant ecosystem that Silicon Valley uniquely offers.

> *"…Silicon Valley teaches us many lessons: strength begets strength. Failure is not a stigma but rather another step toward successful innovation. Those who found startups in Silicon Valley have typically already launched at least three prior ventures…"*
> *"…From Silicon Valley, we learn that power creates more power. Not succeeding on the first try is not a scarlet letter; it is merely a stepping stone on the path to innovation that works…"*
> *"…In Silicon Valley, there is a saying: might generate might. Failure is not an end; it is simply a stride closer to the next successful breakthrough. Most founders here have been through the startup creation process at least three times before…"* (Founders of Silicon Valley startups)

Managers of incubators and accelerators

Each entity approaches financial resources differently. The Naples-based accelerator emphasizes an economic rather than purely financial rationale, focusing on territorial reconversion from traditional heavy industry to a knowledge-driven 'thinking industry.' Startups are encouraged to innovate, leading the shift with the backing of the accelerator. In contrast, the Rome accelerator functions as a financial operator with a clear intent: to make the startups incubated attractive for acquisition by larger

companies, thus ensuring a high return on investment for the associated investment fund. Strategic actors, including mentors with specialized industry experience or a university teaching background, play a vital role in guiding entrepreneurs-to-be. The Naples accelerator selects young but experienced mentors who align closely with the startup mindset, enriching the incubation process with industry-specific expertise. Conversely, the Rome accelerator prioritizes financial acumen, focusing on maximizing fund profitability, coordinated by a team of financial specialists. The cultural context is shaped significantly by the geographic location of the UBAs. In Naples, the university environment adds invaluable momentum to startups, instilling an innovation culture drawn from the university's history and research prowess. Startups are nurtured on fertile ground, rich with academic influence and a focus on creative thought. The Rome accelerator extends its reach beyond the academic setting, leveraging corporate investors, venture capitalists, and industry connections to foster a broader, more diverse startup ecosystem. This not only meets the immediate needs of startups but also paves the way for their entry into larger circuits and international markets. Resources play a composite role, combining core competencies, technical prowess, and the prestige of the university-associated accelerators. Startups gain access to IT solutions for technological development and logistical support through operational headquarters. The Naples accelerator particularly emphasizes the harmonization of knowledge flows and their recombination in startups, bridging the learning orientation of entrepreneurs with the educational strategies of the university. Prestige and relationships are leveraged as resources in both UBAs, aiding startups in gaining visibility, investor connections, and external mentorship.

In summary, these interviews reveal that the Rome and Naples incubators and accelerators cultivate their startups within a framework that balances financial imperatives, strategic guidance, and cultural influence, all while tailoring their approaches to the unique strengths and objectives of their geographic and institutional contexts.

> *"…Our incubator leverages the extensive and varied expertise inherent to our historic university, which boasts numerous departments. This enables us to access a broad spectrum of knowledge, crucial for supporting startups. Our primary endeavor is to manage and merge this knowledge effectively, aligning our educational resources with the learning styles of the entrepreneurs we nurture. This synergy is pivotal in driving the success of new ventures within our incubator model…"* (Manager of Naples Incubator)
>
> *"…Our incubator functions as a dynamic hub, not merely a consultancy. We cultivate an expanding network of actors—investors and potential partners—to enhance the opportunities for entrepreneurs to successfully enter and disrupt the market…"* (Manager of Rome Accelerator).

In the context of Silicon Valley's vibrant startup ecosystem, critical variables of financial resources, strategic actors, and cultural context significantly influence incubation models and the success of emerging companies. Financial resources are foundational for startups to progress from conception to market entry. The incubation process emphasizes the importance of financial acumen in navigating funding landscapes, equipping founders with the skills to secure capital efficiently. The incu-

bation model strives to connect entrepreneurs with an array of investors, facilitating the procurement of necessary funds while fostering an environment where financial negotiation skills are honed, ensuring that startups do not undervalue their potential in the eyes of investors. Strategic actors within the incubator play a pivotal role, with a focus on assembling a diverse team of professionals, including serial entrepreneurs and experts from various fields, to guide the startups. This multidisciplinary mentorship approach provides startups with a broad spectrum of expertise, from technical proficiency to market strategies, ensuring they are well-prepared for the challenges of scaling their businesses. The incubator's network, rich with professors and seasoned industry professionals, becomes an invaluable asset for founders as they navigate the startup lifecycle. Cultural context is another critical variable shaping the startup journey. A culture of innovation and collaboration is fostered, encouraging the exchange of ideas and mutual learning among founders. This supportive environment inspires a collective drive towards innovation, where one's success is seen as a catalyst for the growth of others. The incubator's ethos is centered around a non-profit model that prioritizes talent development over immediate financial gain, cultivating a mindset where the pursuit of innovation and societal impact is valued as much as if not more than, financial success.

Together, these three variables—financial resources, strategic actors, and cultural context—form a holistic framework that incubators use to support and accelerate the growth of startups, fostering ecosystems where new ventures can thrive and contribute meaningfully to the industry and society.

> *"…We are much more than an accelerator; we are changing the world. Our relationship with Stanford University isn't just a partnership; we are the University. Students, professors, and professionals work together as if they are one entity, embodying the true spirit of a disruptive incubator within Silicon Valley…"* (Manager of Silicon Valley Accelerator)

Professors and professionals

Through the insights shared by academic professionals and experts in the startup ecosystems of Central and Southern Italy and Silicon Valley, a comparative analysis emerges, highlighting the distinctions and similarities in these regions across the variables of financial resources, strategic actors, and cultural context.

Financial resources

In Italy, universities' engagement in the startup landscape is burgeoning, with a focus on educational support over direct financial investment. Italian professors acknowledge a gap in the presence of capital and investment funds tied to universities compared to the American model. In contrast, experts in Silicon Valley highlight an established culture of investment, where venture capitalists provide substantial financial backing and seek to integrate into new ventures to acquire skills and innovative capabilities.

Strategic actors

In the Italian context, universities such as Federico II of Naples and La Sapienza of Rome strive to become more 'entrepreneurial and startup-oriented.' The strategic actors, primarily professors, and institutional bodies are working to foster entrepreneurial education and startup support within academic realms. However, the approach remains consultative, with a noted imbalance in spin-off activity across different departments. In Silicon Valley, the role of strategic actors is deeply entrenched, with universities like Stanford acting as pivotal hubs where serial entrepreneurs, students, researchers, and professors collaborate closely, fostering an environment of innovation.

Cultural context

The cultural context within Italian universities is evolving, with an increasing realization of the importance of early entrepreneurial education in developing students' skills and attitudes conducive to business creation. Italian professionals emphasize the need for a systemic and intensive approach to entrepreneurship education to emulate more fertile ecosystems. Silicon Valley, on the other hand, is characterized by a deeply embedded culture of entrepreneurialism, where failure is seen as a valuable learning experience, and education is directly linked to practical innovation through close collaboration between academia and industry.

In summary, while Italian universities are progressively adopting a more entrepreneurial spirit within their educational frameworks, they still face challenges regarding financial resources and integrating strategic actors within the startup ecosystem. Silicon Valley continues to lead with a robust model where technology, culture, and capital converge, facilitated by a strong network of professionals and a supportive cultural context that embraces risk-taking and continuous innovation.

> *"…Very often, the work of our departments is consultative and supports the development of ideas, but very rarely is the idea started, funded, and financed by the university… We are more 'entrepreneur' than 'entrepreneur"…"* (Assistant Professor Federico II of Naples)
> *"…Universities provide two other important things to start-up ecosystems, namely, 'human capital' and 'research results' applicable to business… Start-ups consider universities important for providing human capital and soft skills…"* (Silicon Valley startup ecosystem expert)

Joint Reading of all findings

The findings from our study underscore the significant contrasts and similarities across startup ecosystems in Central and Southern Italy and Silicon Valley. From our comprehensive analysis, several themes emerge. Financial resources, strategic actors, and cultural contexts are critical in shaping the startup environments. Silicon Valley continues to excel due to abundant venture capital, robust market connections,

and a culture of innovation. In contrast, Italian ecosystems, though dynamic, face challenges in funding and strategic support but benefit from unique local and cultural strengths.

Interviews with startup founders in Naples and Rome reveal diverse entrepreneurial strategies. Naples startups focus on organic growth and autonomy, whereas Rome startups seek aggressive capital engagement to enhance valuation. Both ecosystems benefit from incubator programs providing essential business development skills and connections.

Global reports and local interviews indicate that while Silicon Valley is a leader in integrating education with entrepreneurship, Italian ecosystems are progressively fostering this integration, emphasizing the role of universities in startup development.

The findings highlight the importance of understanding local conditions to foster thriving startup ecosystems. They suggest that leveraging specific regional strengths and addressing identifiable gaps can significantly enhance the growth and sustainability of startups in varied geographical contexts.

Implication

Theoretical implications

Benchmarking Against Silicon Valley: The findings emphasize the importance of benchmarking startup ecosystems in Central and Southern Italy against the Silicon Valley model. This comparison highlights significant differences in financial resources, strategic actor involvement, and cultural contexts. By understanding these disparities, the interpretative model of startup ecosystems can be refined to account for diverse geographical and socio-cultural factors.

Adaptation and Learning from Global Models: The research suggests that Central and Southern Italy startup ecosystems can benefit from adapting strategies and practices prevalent in Silicon Valley. This involves learning from Silicon Valley's robust venture capital environment, its approach to fostering innovation, and the integration of strategic actors in startup development.

Tailoring to Local Strengths and Challenges: While drawing lessons from Silicon Valley, it's crucial for ecosystems in Central and Southern Italy to tailor these insights to their unique local contexts. This multidimensional approach allows for recognizing and leveraging local strengths, such as regional market reach and cultural uniqueness, while addressing specific challenges.

The research underscores the necessity of benchmarking startup ecosystems in Central and Southern Italy against the Silicon Valley model, illuminating critical differences in financial resources, strategic actor involvement, and cultural contexts. This comparative analysis reveals that while Silicon Valley benefits from a highly developed venture capital framework and a dynamic network of strategic actors that significantly propel startup growth and innovation, Central and Southern Italy's ecosystems reflect unique regional strengths. These include localized market reach and cultural intricacies that can fuel niche innovations. Italian ecosystems could enhance their global competitiveness by adapting Silicon Valley's strategies, particularly its

methods of fostering innovation through robust strategic partnerships and financial models. However, adaptations mustn't be wholesale; they must consider the socio-economic and cultural fabric of the Italian regions to ensure sustainability and relevance. This tailored approach bridges the existing gaps and leverages distinct local advantages, paving the way for a resilient and innovative startup environment that mirrors global best practices while nurturing local characteristics and opportunities.

Managerial implications

Financial Resource Utilization: Silicon Valley's startup ecosystem thrives on a rich venture capital landscape, which contrasts with the more limited financial resources in Central and Southern Italy. This difference highlights the need for innovative financing strategies in Italian ecosystems, possibly integrating European funding models with lessons from Silicon Valley to enhance financial support for startups.

Strategic Actor Engagement: The role of strategic actors, such as mentors, industry experts, and academic institutions, varies between the two ecosystems. Silicon Valley benefits from a profoundly integrated network of experienced professionals and a culture of collaboration. In contrast, Central and Southern Italy can focus on strengthening the involvement of local universities, industry partners, and experienced mentors to build a more cohesive and supportive ecosystem.

Cultural Context and Innovation: Silicon Valley's risk-taking, innovation, and resilience culture offers a benchmark for Italian ecosystems. Emulating this culture while respecting and integrating the unique cultural heritage of Central and Southern Italy can foster a more dynamic and innovative startup environment.

Learning from Silicon Valley's Collaborative Ecosystem: The collaborative nature of Silicon Valley's ecosystem, where startups, universities, and industry players work closely together, can serve as a model for Italian ecosystems. Encouraging collaboration and knowledge sharing among various stakeholders can enhance startups' overall effectiveness and growth potential in Central and Southern Italy.

In summary, benchmarking the startup ecosystems of Central and Southern Italy against Silicon Valley provides valuable insights into potential areas of improvement and adaptation. By understanding and leveraging the differences and learning from Silicon Valley's strengths, these Italian ecosystems can enhance their strategies to support and nurture startups, fostering a more robust and vibrant entrepreneurial landscape.

The managerial implications of this research are profound, emphasizing the need for startup ecosystems in Central and Southern Italy to strategically incorporate practices from Silicon Valley while respecting local contexts. Managers and policymakers should focus on enhancing access to venture capital and facilitating the engagement of strategic actors who can provide mentorship and open doors to broader networks. This approach should be complemented by fostering a culture of innovation that resonates with Italian startups' regional characteristics and economic realities. Additionally, by cultivating unique local strengths, such as deep-rooted cultural industries and regional entrepreneurial spirit, managers can develop a supportive environment that encourages startups to innovate within a framework that highlights local market advantages and cultural compatibility. This strategic blend of global insights and

local adaptability will be crucial for nurturing dynamic, sustainable ecosystems that support startup success and regional economic growth.

Conclusions and limitations

This research has embarked on a comprehensive journey to benchmark the startup ecosystems of Central and Southern Italy against the globally renowned Silicon Valley. Through this comparative analysis, we have gained valuable insights into the critical variables of financial resources, strategic actors, and cultural contexts that shape these ecosystems. The findings provide a rich tapestry of information, shedding light on each ecosystem's unique characteristics and dynamics and offering a pathway for future development and growth. The study has successfully highlighted the stark contrasts and occasional similarities between the startup environments of Central and Southern Italy and Silicon Valley. It underscores the critical role of financial resources, where Silicon Valley's abundant venture capital environment starkly contrasts with the more limited financial avenues in the Italian context. This disparity has significant implications for the growth and scalability of startups in Italy, pointing towards the need for innovative financing models that blend local strengths with insights from Silicon Valley. In terms of strategic actors, the research reveals that while Silicon Valley benefits from a profoundly integrated network of experienced professionals and a collaborative culture, Central and Southern Italy are still evolving in this regard. The Italian ecosystems show potential in leveraging the involvement of local universities and industry partners, yet there is room for greater cohesion and support. This aspect presents an opportunity for Italian ecosystems to strengthen their networks and foster a culture of collaboration and mentorship akin to that in Silicon Valley. The cultural context also emerges as a pivotal factor in shaping startup ecosystems. Silicon Valley's innovation, risk-taking, and resilience culture sets a high benchmark. In contrast, the Italian ecosystems are characterized by evolving entrepreneurial attitudes and a growing recognition of the need for systemic entrepreneurial education. This cultural dimension offers a fertile ground for Italian ecosystems to nurture a more dynamic and innovative startup environment by integrating the lessons from Silicon Valley while preserving their unique cultural heritage.

The research, however, is not without its limitations. One of the primary constraints is the scope of the study, which focuses on specific regions in Italy and compares them to Silicon Valley. This geographical limitation means that the findings may not be fully generalizable to other startup ecosystems within Italy or globally. Furthermore, the study predominantly relies on qualitative data, including interviews and reports. While this provides in-depth insights, it also means that the conclusions are subject to the interviewees' and researchers' interpretations and perspectives, which may introduce an element of subjectivity.

Another limitation is the dynamic and rapidly evolving nature of startup ecosystems. This study's findings are based on the current state of these ecosystems, and given the fast-paced changes in the startup world, some of the insights may become outdated or less relevant over time. Additionally, the study needs to delve into the

specific policy and regulatory environments of the ecosystems, which can profoundly impact their development and success.

In conclusion, this research contributes significantly to our understanding of startup ecosystems, particularly in Central and Southern Italy and Silicon Valley. By highlighting the key differences and drawing lessons from these comparisons, the study provides valuable insights for policymakers, entrepreneurs, and academics. It sets the stage for further research to build on these findings, explore new dimensions, and enhance our understanding of the complex and dynamic world of startup ecosystems. The study's limitations also offer avenues for future research to expand the scope, delve deeper into specific aspects, and continually update the findings to reflect the evolution of startup ecosystems globally.

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Declarations

Competing interests The author declare that no funding, grants, or financial support were received from any organization that might financially benefit from the publication of this manuscript. None of the authors have current, anticipated, or recent employment affiliations with organizations that could gain or lose financially through this work. There are no financial interests, such as stocks, patents, consultancy fees, or other forms of compensation, that could influence the outcomes or interpretation of this research. Additionally, there are no non-financial interests, such as editorial or advisory board memberships, professional relationships, or personal beliefs, that could impart bias on the content of this manuscript.

References

Aidis, R., & Welter, F. (Eds.). (2008). *Innovation and entrepreneurship: Successful start-ups and businesses in emerging economies*. Edward Elgar Publishing.

Blank, S. (2016). Intel Disrupted: Why large companies find it difficult to innovate, and what they can do about it, Acesso em 25.

Blank, S., & Dorf, B. (2020). *The startup owner's manual: The step-by-step guide for building a great company*. Wiley.

Blank, S., & Engel, J. (2016). The National Science Foundation Innovation corps™ teaching handbook. *Venture Well*.

Brown, R., & Mason, C. (2014). Inside the high-tech black box: A critique of technology entrepreneurship policy. *Technovation,34*(12), 773–784.

Bruneel, J., Ratinho, T., Clarysse, B., & Groen, A. (2012). The evolution of business incubators: Comparing demand and supply of business incubation services across different incubator generations. *Technovation*, *32*(2), 110–121.

Camuffo, A., Gerli, F., & Gubitta, P. (2012). Competencies matter: Modeling practical entrepreneurship in northeast of Italy small firms. *Cross Cultural Management: An International Journal*, *19*(1), 48–66.

Cassell, C., Buehring, A., Symon, G., Johnson, P., & Bishop, V. (2006). *Benchmarking good practice in qualitative management research*.

Champenois, C., & Etzkowitz, H. (2018). From boundary line to boundary space: Creating hybrid organizations as a Triple Helix micro-foundation. *Technovation*, *76*, 28–39.

Chengappa, L., & Geibel, R. (2014). What European incubators can learn from their American counterparts: An analysis of the critical success factors for a startup incubator. *Journal of Tourism and Hospitality Management*, *2*(1), 40–47.

Chioda, E., & Tripepi, T. (2021). *Silicon Valley, cosa imparare dalla terra dell'innovazione per farcela in Italia, Hoepli*.

Ciappei, C., & Sani, A. (2006). Strategie di internazionalizzazione e grande distribuzione nel settore dell'abbigliamento. Firenze University Press.
Clarysse, B., Wright, M., Lockett, A., Van de Velde, E., & Vohora, A. (2005). Spinning out new ventures: A typology of incubation strategies from European research institutions. *Journal of Business Venturing*, *20*(2), 183–216.
Cohen, S., & Hochberg, Y. (2014). *Accelerating startups: The seed accelerator phenomenon*. Available at SSRN 2418000. Retrieved from http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2418000
Cohen, S., Fehder, D. C., Hochberg, Y. V., & Murray, F. (2019). The design of startup accelerators. *Research Policy*, *48*(7), 1781–1797.
Dixit, A. R., Malik, N., Seth, M., & Sethi, D. (2023). The role of social entrepreneurial leadership and benchmarking in women empowerment. *Benchmarking: An International Journal*, *30*(1), 180–195.
Dubois, A., & Gadde, L. E. (2002). Systematic combining: An abductive approach to case research. *Journal of Business Research*, *55*(7), 553–560.
Dymchenko, O., Smachylo, V., Rudachenko, O., Palant, O., & Kyselhof, Y. (2022). I am modeling the influence of startup ecosystem components: entrepreneurial aspect.
Economyup.it (2022).
Fetters, M., Greene, P. G., & Rice, M. P. (Eds.). (2010). *The development of university-based entrepreneurship ecosystems: Global practices*. Edward Elgar Publishing.
Fiorentino, R., Longobardi, S., & Scaletti, A. (2021). The early growth of start-ups: Innovation matters. Evidence from Italy. *European Journal of Innovation Management*, *24*(5), 1525–1546.
Genome 2023, Global Startup Ecosystem Report (GSER) Startupgenome.it. [Access April, 2023]
Goyal, S., Sergi, B. S., & Jaiswal, M. P. (2016). *We are understanding social entrepreneurship's challenges and strategic actions at the base of the pyramid—management decision*.
Greco, F. (2023a). *Startup ecosystems*. Springer.
Greco, F. (2023b). Access to New Technologies as a Lever for Start-Up Scalability. *Startup ecosystems: Components for an interpretative model and international benchmarks* (pp. 65–76). Springer Nature Switzerland.
Greco, F., & Tregua, M. (2022). It gives you wheels: The university-based accelerators in start-up ecosystems. *International Journal of Entrepreneurship and Small Business, 45*(2), 235–257.
Greco, F., Tregua, M., & Mele, C. (2019). University-based Accelerators for startup and their impact on the ecosystem. In *The Naples Forum On Service*.
Greco, F., Tregua, M., Carignani, F., & Bifulco, F. (2022). Silver entrepreneurship: A new trend in startups. *Sinergie Italian Journal of Management*, *40*(3), 123–148.
Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation, 25*(2), 111–121.
Haltiwanger, J. (2022). Entrepreneurship in the twenty-first century. *Small Business Economics*, 1–14.
Jennings, M. D. (2000). Gap analysis: Concepts, methods, and recent results. *Landscape Ecology*, *15*, 5–20.
Kansheba, J. M. P., & Wald, A. E. (2020). Entrepreneurial ecosystems: A systematic literature review and research agenda. *Journal of Small Business and Enterprise Development*, *27*(6), 943–964.
Kauffman, S. (2004). A proposal for using the ensemble approach to understand genetic regulatory networks. *Journal of Theoretical Biology, 230*(4), 581–590.
Kim, S., & Ji, Y. (2018). Gap analysis. *The international encyclopedia of strategic communication* (pp. 1–6).
Kolympiris, C., & Klein, P. G. (2017). The effects of academic incubators on university innovation. *Strategic Entrepreneurship Journal*, *11*(2), 145–170.
Kropp, F., Lindsay, N. J., & Shoham, A. (2008). Entrepreneurial orientation and international entrepreneurial business venture startup. *International Journal of Entrepreneurial Behavior & Research*, *14*(2), 102–117.
Lawson, R., & Ruderham, R. (2009). Integrating fundraising and campaigning. *International Journal of Nonprofit and Voluntary Sector Marketing*, *14*(4), 379–386.
Maitlis, S. (2012). Narrative analysis. *Qualitative organizational research: Core methods and current challenges* (pp. 492–511).
Mann, C. L., & Sanyal, P. (2010). *The financial structure of startup firms: The role of assets, information, and entrepreneur characteristics*.
Matricano, D. (2016). The impact of intellectual capital on start-up expectations. *Journal of Intellectual Capital*, *17*(4), 654–674.

Mele, C., & Russo-Spena, T. (2018). A dynamic alternative to linear views on innovation: I am combining innovating in practice with expansive learning. In *The SAGE handbook of service-dominant logic* (pp. 536–560).
Mele, C., & Russo Spena, T. (2019). *Practicing innovation, a socio-material view*. Editoriale Scientifica.
Mele, C., Russo-Spena, T., Tregua, M., & Greco, F. (2020). Communication practices in the diffusion of social-business innovation: Insights from B-Corporations. Mercati & Competitività.
Mengel, S., & Wouters, M. (2015). Financial planning and control in small start-up companies: Antecedents and effects on company performance. *International Journal of Entrepreneurship and Small Business*, *26*(2), 191–216.
Motoyama, Y., & Watkins, K. (2014). *Examining the connections within the startup ecosystem*. Kauffman Research Series on City, Metro, and Regional Entrepreneurship.
Motoyama, Y., & Knowlton, K. (2017). Examining the connections within the startup ecosystem: A case study of St. Louis. *Entrepreneurship Research Journal*, *7*(1), 20160011.
Nasheeda, A., Abdullah, H. B., Krauss, S. E., & Ahmed, N. B. (2019). Transforming transcripts into stories: A multimethod approach to narrative analysis. *International Journal of Qualitative Methods*, *18*. 1609406919856797.
Petretto, L. (2008). *Imprenditore ed Università Nello start up di impresa, ruoli e relazioni critiche*. Firenze University.
Reis, E. (2011). The lean startup. *New York: Crown Business*, *p. 27*, 2016–2020.
Registrodelleimprese.it. Access March, 2023
Schick, H., Marxen, S., & Freimann, J. (2002). Sustainability issues for start-up entrepreneurs. *Greener Management International*, *38*, 59–70.
Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, *25*(1), 217–226.
Sole24ore.it (n.d.).
Stal, E., Andreassi, T., & Fujino, A. (2016). The role of university incubators in stimulating academic entrepreneurship. *RAI Revista De Administração E Inovação*, *13*(2), 89–98.
Stam, E., & Van de Ven, A. (2021). Entrepreneurial ecosystem elements. *Small Business Economics*, *56*, 809–832.
Startupitalia.eu (2023).
Startup, & Genome (2023). *Global Startup Ecosystem Report (GSER)*. https://startupgenome.com
Tasic, I., Montoro-Sánchez, A., & Cano, M. D. (2015). Startup accelerators: an overview of the current state of the acceleration phenomenon. In *XVIII Congresso AECA. Cartagena*.
Tripathi, N., Seppänen, P., Boominathan, G., Oivo, M., & Liukkunen, K. (2019). Insights into startup ecosystems through exploration of multi-vocal literature. *Information and Software Technology*, *105*, 56–77.
Welter, F., Baker, T., & Wirsching, K. (2019). Three waves and counting: The rising tide of contextualization in entrepreneurship research. *Small Business Economics*, *52*, 319–330.
Zahra, S. A. (2021). The resource-based view, resourcefulness, and resource management in startup firms: A proposed research agenda. *Journal of Management*, *47*(7), 1841–1860.