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UNIVERSITÀ DEGLI STUDI DI NAPOLI “PARTHENOPE”

DIPARTIMENTO DI STUDI AZIENDALI E QUANTITATIVI



DOTTORATO DI RICERCA IN IMPRENDITORIALITÀ E INNOVAZIONE

XXXVIII CICLO

*Social Media and Stakeholder Engagement in High-Tech Healthcare Start-Ups: An
Exploratory Study*

Anno 2024/2025

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Declaration

I acknowledge the use of Grammarly and ChatGPT in helping me proofread the thesis. I used the following prompt: “Suggest ways to improve clarity and concision. Do not rewrite any of my writing.” I reviewed the feedback critically and revised the writing using my own words and expressions.

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INTRODUCTION

Over the last few decades, the healthcare sector has witnessed a phenomenon of digital transformation, which the COVID-19 pandemic-related restrictions have accelerated (Kraus et al., 2022; Fletcher and Griffiths, 2020). Digital transformation is viewed as a profound socioeconomic change that affects multiple actors operating at various levels, including individuals, organizations, and entire ecosystems (Dąbrowska et al., 2022). Such a phenomenon has led to the implementation of various digital tools across different fields, including agriculture, food, tourism, and the healthcare sector. The technology has generated multiple digital tools that are now embedded in the ecosystem and are used by different actors operating within the health ecosystem, affecting the processes and organization.

The use of digital tools has dramatically increased as it has been realized that digital tools applied in different contexts can bring multiple benefits despite the countless challenges that have been faced and still need to be addressed. Among the various digital tools, the use of social media (SM) has increased significantly in recent years for several reasons, one of which is its ability to facilitate communication. In recent decades, new information and communication technologies have profoundly transformed the business landscape.

The emergence of Web 2.0 and the proliferation of social platforms such as Facebook, LinkedIn, Twitter, and Instagram have revolutionized communication between businesses and their ecosystems. These new tools facilitate continuous interaction, real-time information exchange, and innovative ways of managing corporate identity and strategic thinking (Almotairy et al., 2020).

The use of SM by entrepreneurs has increased considerably as they have recognized it as a marketing tool capable of enhancing visibility, engagement, and profitability. In the literature, SM was widely discussed in relation to customer involvement, brand awareness, and sales performance. Today, social

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media platforms represent essential tools for building a strong brand image and maintaining direct, interactive relationships with consumers.

The adoption of SM by entrepreneurial companies has only started to gain attention in the academic literature since the mid-2010s (Schjoedt et al., 2020). The use of social networks in entrepreneurial activities is gaining increasing importance, becoming a strategic tool for visibility, marketing, and professional connections. This research stream is relatively new and fragmented (Fraccastoro et al., 2021; Olanrewaju et al., 2020), sparking growing interest from management scholars and underscoring the need for further research (Troise et al., 2021).

In healthcare, the SM complements the traditional services (Farsi et al., 2022). Several stakeholders are increasing the use of SM, including healthcare providers, patients, and enterprises. SM acts as an enabler of interactions among individuals and organizations, supporting the consolidation of resilient networks (Jordan, 2019; Montgomery, 2018).

Start-ups represent the most delicate players in the business landscape, with generally young and fragile realities. Still, at the same time, they are one of the most dynamic and capable of arousing growing interest because these realities strive to engage, intercept, and understand the emerging needs of the market and the attention of investors. The team and customers strongly depend on this.

Start-ups assert themselves in every sector, bringing innovation and new perspectives regardless of the sector. One of the sectors where various start-ups are emerging is the healthcare system. The combination of digitalisation and healthcare has led. It is leading innovative start-ups to try to improve satisfaction or completely satisfy a need in a different or creative way. The health-tech sector has redefined the boundaries of the healthcare industry, leading to its rapid evolution (Iyanna et al., 2022).

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Likewise, in the early stage of the life cycle, start-up teams must operate in a resource-constrained environment. The following work focuses on high-technology intensity start-ups, particularly in the early growth phase of these companies. Many start-up companies fail before their fifth year due to weak business and marketing strategies, sometimes caused by limited resources. Many studies have investigated the use of SM in the early stage of the startup (Mujahid and Mubarik, 2021b) to access resources (Riverola et al., 2022) effectively. Moreover, they have investigated how the content of a specific social media can build a strong relationship with customers (Jaakonmäki et al., 2017), scrubbing the data. However, research remains scarce regarding how start-ups can better utilize social media, often without considering a specific platform. Moreover, few studies have explored the strategic use of social media for stakeholder engagement for startup companies (Chen et al., 2017). The engagement of stakeholders through the SM remains complex and uncertain (Czakon et al., 2024) because there are several challenges. Although the literature acknowledges the importance of SM in entrepreneurial communication, research on its role in fostering stakeholder relationships and their sustainable growth remains limited. In this work, it was examined how social media adoption can support the long-term development of start-ups. In particular, this research aims to answer the following research question (RQ): How do high-tech health start-ups adopt social media to improve stakeholder engagement?

In this regard, the objectives are threefold: 1) Analyze how health high-tech start-ups use social media, 2) Examine the role of social media in supporting healthcare technology start-ups, and 3) Identify critical issues in the current social media strategies implemented by such start-ups.

The originality of work is also influenced by the sector, as start-ups in the health sector often find it more challenging to engage stakeholders. Especially, the actors in healthcare are a critical part, especially if they are patients or involved in hospitals or investments. Moreover, the thesis analyzes

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the entire life cycle of the start-up. The research sustained that the healthcare startup has to combine experience, attention to market and regulatory needs, and continuous improvement to create and maintain the success (Chakraborty et al., 2023). Finally, it was considered the start-up point of view. The following work is a monograph composed of five chapters. The thesis is organized as follows (Figure 1).

The first chapter provides an introduction to the research context, outlining the research goal and describing how the research gap was identified using the bibliometrics approach.

The second chapter describes an overview of the literature review regarding the digital transformation, describing in particular the social media and their strategies.

The third chapter describes an overview of the healthcare field, describing the startup actors and their phase of life. Moreover, in the second part of this chapter, the Social Exchange Theory was described. In this work, the theory is employed to understand the conceptual foundations on which the research is based, and it also helps the authors in formulating the research question.

The fourth chapter describes the methodology applied, the collected data, and their analysis. In the fifth chapter, the findings and their discussion, and the conceptual framework obtained were described. Finally, the thesis concludes with the conclusions, theoretical and practical implications, limitations, and future research directions.



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Figure 1: Structure of the work

Structure of the thesis:				
Introduction	Literature review		Empirical Research:	
Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5
Bibliometrix Analysis Research Context	Digital Transformation and Social Media Strategies	The Healthcare Ecosystem, Start- Ups and Social Media Strategies	Methodology approach and Research Design	Findings Discussion Conclusion

Source(s): Author elaboration

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Chapter 1

1.1 Research Background

The digital transformation has transformed the industry, reshaping societies, markets, and organisational structures. Technological innovations and socio-economic shifts have progressively redefined production processes, moving from agricultural and industrial systems to economies dominated by digitalisation and automation. The “Digital Revolution” paved the way for knowledge-based economies, promoting globalisation and the diffusion of intelligent technologies. Within this evolution, Industry 4.0 has emerged, characterised by innovations such as Artificial Intelligence (AI), 3D printing, and the Internet of Things (IoT) (Grabowska et al., 2024). Consequently, the technology has become a fundamental driver for the organisations that adopt digital in their business models.

In this context, start-ups and high-tech firms increasingly invest in digital technologies, including social media to enhance innovation, market positioning, and stakeholder engagement. The rapid expansion of these technologies has also sparked extensive academic debate, resulting in a vast yet fragmented body of literature.

To this end, bibliometric analysis has become a fundamental approach for quantitatively evaluating scientific output. Aria and Cuccurullo (2017) define this methodology as: “the application of mathematical and statistical methods to books and other communication media”. This method enables researchers to map the intellectual structure of a field, uncovering prevailing trends, research gaps, and potential directions for future investigation. It was carried out in accordance with Aria and Cuccurullo (2017).

The literature search was performed using the Scopus dataset, as it provides coverage of academic publications, including a wide range of scientific articles, and reliable bibliometric indicators (Pranckutė, 2021).

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The search string was explicitly designed to capture the main topics of interest: ("startup*" OR "start-up*" OR "high-tech*" OR "e-health*" OR "digital health venture*") AND ("social media" OR "social media strateg*") AND ("engag*"). The initial sample obtained was 220.

Then, the following inclusion and exclusion criteria were applied:

- *Publication date:* Only studies published up to June 2025 were considered. No temporal restrictions were applied, allowing for an extensive review of the literature. The following paragraph specifies the inclusion and exclusion criteria.
- *Document type:* The analysis included solely academic articles published in peer-reviewed journals, as these are recognized as reliable sources of scholarly knowledge.
- *Publication stage:* Only articles that had reached the final stage of publication were included, because they had undergone peer review and their entire work is valid and trustworthy.
- *Language:* Only articles written in English were considered, given its dominance in global scientific literature. This choice facilitates the comparison across research.
- *Study orientation:* Studies were eligible for inclusion if they involved “health”, “start-up”, “marketing”, and “healthcare”, as overarching themes (based on the previously defined search terms). This keyword-based selection ensures relevance to the study’s orientation and enables effective answering of the research question.

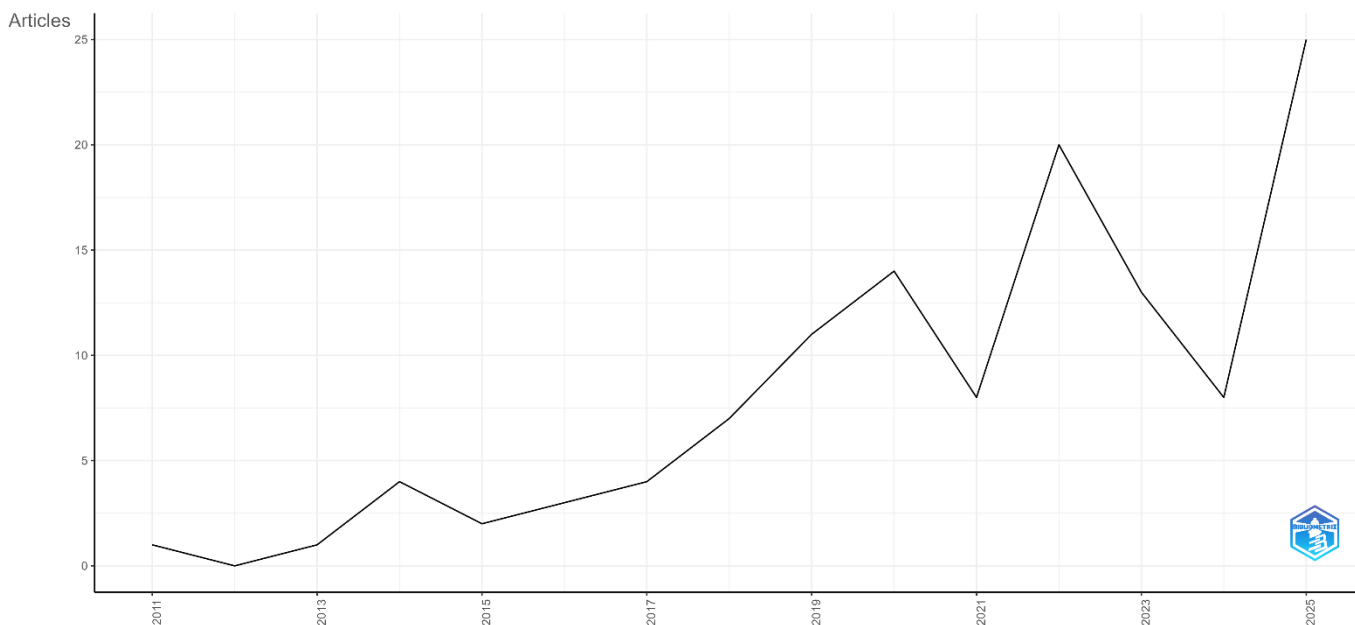
These criteria have led to 120 relevant articles. The following data were obtained because they were considered crucial factors for identifying the research gap:

- Publication output;
- Thematic map;
- Co-occurrence network.

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Figure 2: Annual Scientific Production



Source(s): Author elaboration

This graph (Figure 2) shows the annual scientific production from 2011 to 2025. On the x-axis, it was found the years while on the y-axis the number of published articles.

The graph shows a marked growth trend in the number of articles published on the topic of social media use, although with considerable fluctuations.

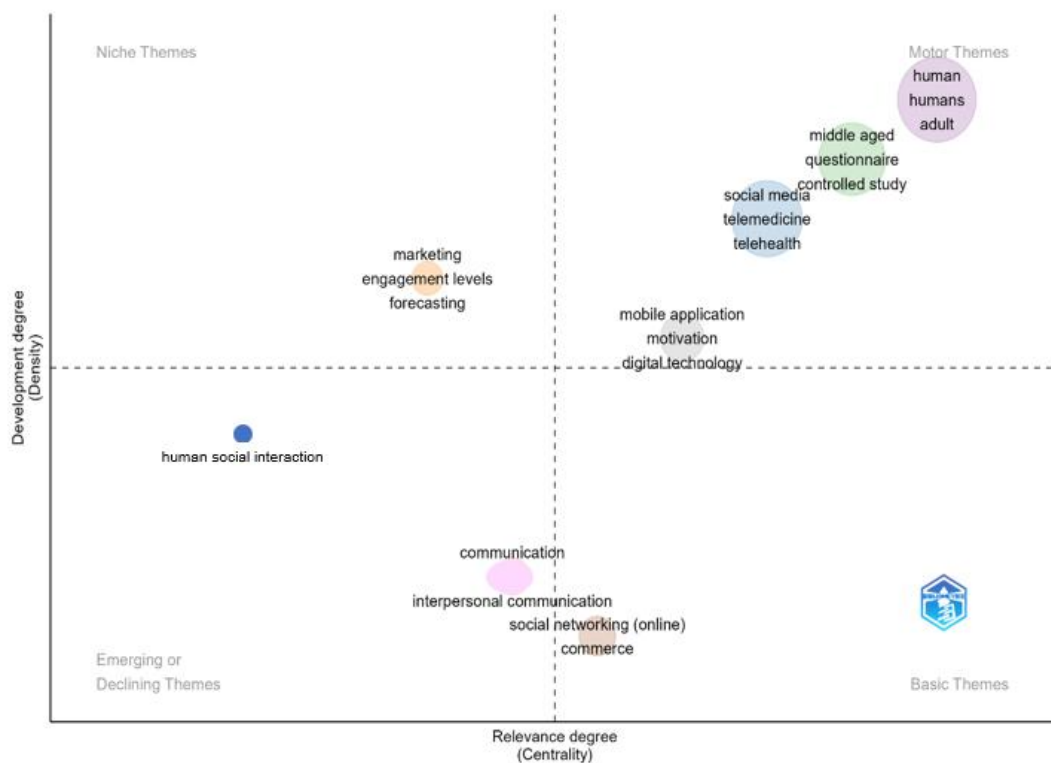
From 2011 and 2017, there was a notable decline in scientific publications related to themes within our search string. Following that, there was a significant acceleration, particularly in 2022, with around 20 articles, and a second peak in 2025, with around 25 articles, considering that the calendar year is yet to end. This expansion was interspersed with periods of sharp decline, such as those observed in 2021 and 2024, indicating a very volatile overall trend but with a clear dynamic of

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increased productivity in the long term. Therefore, this denotes an increase in scholars in topics such as “social media” and “start-ups”, which is likely to be seen in 2022, as they are linked to the socio-contextual factors of COVID. In 2025, there was a strong focus on such issues.

Figure 3: Thematic map



Source(s): Author elaboration

The strategic map of research themes (Figure 3) provides an overview of the conceptual structure within the scientific field, based on our search string.

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On the horizontal axis, i.e. the level of relevance, which measures how central a theme is in the field, while on the vertical axis, there is the level of development, i.e. it indicates how much the topic is covered in the scientific literature. Among the Motor Themes, it was found that human, social media, and telemedicine, which represent central and consolidated topics, underline how research focuses on the interaction of people with digital technologies.

Among the Basic Themes, it was found that communication and social networking are theoretically relevant but poorly developed, highlighting an area of research that is still little used.

Among the Niche Themes, it was found that marketing and engagement levels, although mature and peripheral, are themes that exist, but they are not yet fully integrated into the core of the research.

Among the emerging themes, human social interaction emerges a currently emerging theme.

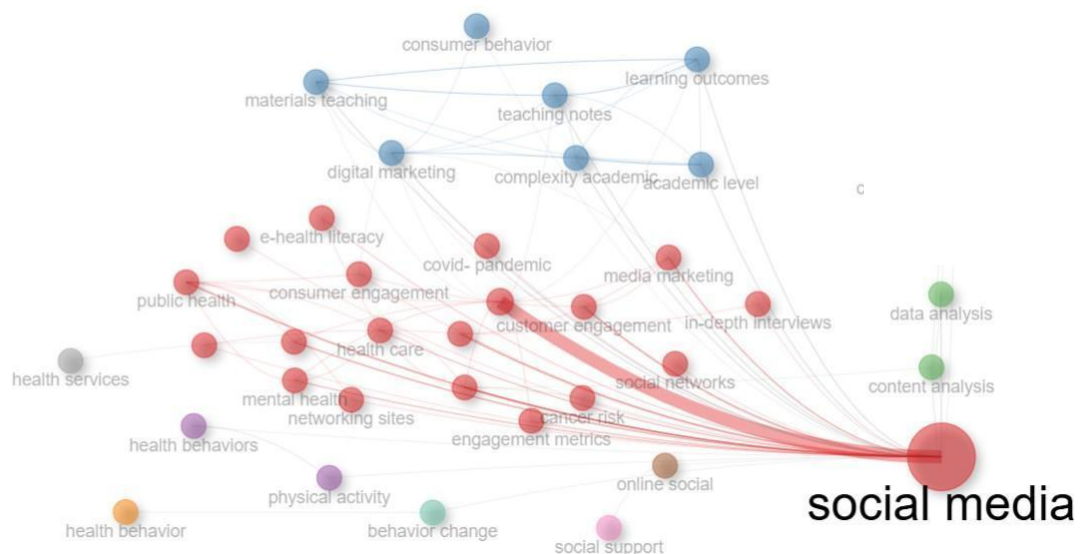
Based on this evidence, this research aims to fill the gaps identified by the thematic map, exploring how high-tech start-ups use social media to improve engagement by strengthening communication to build network relationships.

The work is therefore located at a strategic intersection point between the themes already consolidated in the literature with respect to poorly developed theoretical areas such as communication and niche themes of engagement. Therefore, it tries to combine and integrate these strands in a single perspective oriented towards innovation and digital participation.

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Figure 4: Co-occurrence network.



Source(s): Author elaboration

The keyword co-occurrence map (Figure 4) highlights the centrality of the *social media* node, which serves as the core of the entire research field, around which three main clusters are organized. In the software, the abstracts of the papers were considered, and the map was divided into three clusters.

The red cluster, the densest one, focuses on the healthcare domain, connecting concepts such as *health care*, *mental health*, and the *COVID pandemic*, while the blue cluster addresses topics related to *digital marketing*, *consumer behavior*, and *learning outcomes*. Finally, the green cluster encompasses the methodological approaches employed in *data analysis* and *content analysis*.

This configuration indicates that scientific interest in the topic of social media is primarily focused on the healthcare sector, with a lesser emphasis on education and marketing. However, there appears

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to be limited attention to the strategic role of social media in the context of high-tech startups—particularly regarding their use to foster engagement, build stakeholder relationships, and support growth and innovation processes. Therefore, this study positions itself within this still underexplored research area, contributing to a deeper understanding of the communicative and participatory dynamics generated by startups through social media.

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Chapter 2. Digital Transformation and Strategic Media Strategies

This chapter delves into the digital transformation of the healthcare sector, exploring how emerging technologies and social media are reshaping organizational models, communication strategies, and stakeholder engagement. The paragraph 2.1 introduces the concept of Digital Transformation (DT), explaining how digital technologies—such as Artificial Intelligence, the Internet of Things, and mobile health tools—are redefining processes, structures, and interactions in healthcare. It highlights how DT enhances accessibility, personalization, and connectivity between patients and providers.

The paragraph 2.2 focuses on the evolution of business models within digital healthcare. It examines how technological innovation drives the reconfiguration of value creation, strategy, and relationships among ecosystem actors, emphasizing a multistakeholder perspective and the growing role of digital business models. The paragraph 2.3 explores Social Media (SM) as a powerful communication and marketing tools. It defines social media, traces their evolution, and illustrates their role in promoting interaction, visibility, and co-creation between organizations and users, especially in the context of healthcare and entrepreneurship. The paragraph 2.4 presents the main social media strategies, identifying their typologies—such as social monitoring, content creation, engagement, commerce, and CRM based on the taxonomy by Li et al. (2021). It also discusses the opportunities and risks associated with social media use, stressing the need for continuous monitoring and adaptation.

The paragraph 2.5 deepens the concept of engagement, showing how social media enables two-way communication and fosters collaboration, trust, and long-term relationships between organizations and stakeholders. It connects engagement to co-management processes, co-creation of value, and improved visibility and reputation for healthcare actors.

The paragraph 2.6 analyzes content strategies and social media functionalities, highlighting how organizations utilize different types of content informative, promotional, and dialogic, to foster

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engagement. It discusses message strategies and emphasizes the importance of interactive communication in building relationships. Finally, the paragraph 2.7 focuses on social media measurement and evaluation, illustrating key methods for assessing online engagement through behavioral metrics and content analysis.

2.1 *Digital Transformation*

In the literature the concept of digital transformation (DT) refers to "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information technologies, communication, communication and connectivity (Vial, 2021).

The phenomenon of DT has a significant impact on various aspects of companies, such as the purchase of digital resources, the definition of strategies oriented towards digital growth, the reorganization of the internal structure, and the identification of metrics and objectives consistent with the new structure.

Over the years, DT has been the subject of important studies in different sectors. In particular, in recent years it has also been revolutionizing the healthcare sector (Kraus et al., 2021). Marques and Ferreira (2020) argue that relevant literature research has become regarding the topic of digital transformation in healthcare over the last 20 years.

The health sector provides goods and services to preserve people's physical and mental well-being, and DT try to reach these goals. The DT has improved the way information exchange, communication, and connectivity occurs (Vial, 2021), influencing individuals, organizations and their ways of interacting.

DT has given rise to various technologies, including artificial intelligence (AI), the Internet of Things (IoTs), mobile technologies, and Virtual Reality. AI, IoTs, and mobile technologies help make

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healthcare more accessible for patients who are located territorially far from the hospital or with limited mobility (Currie et al., 2015).

Furthermore, these technologies provide higher quality care through personalized care (Khan and Alotaibi, 2020) and also provide communication channels (Ahmed et al., 2020) through the use of apps and portals that help patients better orient themselves in care (Timmers et al., 2020).

The rapid pace of DT has introduced new digital spaces, such as social media (SM), into business practices. These platforms enable firms to monitor consumer behavior (Caputo et al., 2018), communication with customers (Saari et al., 2022; Wei et al., 2023), and develop personalized products and services (Scuotto et al., 2017). Consequently, the use of SM by companies has increasingly emerged as a central theme in academic literature over the past decades (Fischer and Reuber, 2011; Kaplan and Haenlein, 2010; Olivieri and Testa, 2024).

2.2 Business Models and their Evolution

The DT in healthcare has created new business opportunities and new business models to address problems in medical applications, value creation, and an aging society (Elton and O'Riordan, 2016). In fact, since the 1990s, literature has focused on the concept of the digital business model, that is a business model that is influenced by the changes brought about by digital technologies. These technologies change the organizational structure of the company and the way in which revenues are generated (Veit et al., 2014).

According to Müller et al. (2018) the business model describes how an organization designs and manages its activities to generate value for customers, interacts with suppliers, partners and customers themselves, and receives financial compensation from the latter.

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To correctly understand how technology is used in the health ecosystem for quality of care, before must observe the ecosystem through a multistakeholder perspective. Through emerging technologies, business strategies have been reshaped to optimize efficiency, improve user experiences and create value (Dressler and Paunovic, 2021).

2.3 Social Media

The SM is one of the most powerful communication tools of the 21st century (Ventola and therapeutics, 2014). The SM is in constant development (Ventola, 2014) is an essential tool for companies for several reasons, for instance to engage patients, healthcare professionals, and other stakeholders. SM are “online means of communication, conveyance, collaboration, and cultivation among interconnected and interdependent networks of people, communities, and organizations enhanced by technological capabilities and mobility” (Tuten, 2023).

In recent years, the growing digitalization has led to an increase in both the SM tools available in the market and the number in users who use them, offering new opportunities to communicate, connect, and share content more easily (Lafferty and Manca, 2018). According to Tuten (2023), SM are “online means of communication, conveyance, collaboration, and cultivation among interconnected and interdependent networks of people, communities, and organizations enhanced by technological capabilities and mobility”.

SM is considered one of the most powerful communication tools of the 21st century and is constantly evolving (Ventola, 2014). The SM involves organizations in changing their strategies (Aula, 2010) in relation to their organizational goals. Different social media platforms serve distinct purposes and audiences. For example, Twitter has become a dynamic environment for entrepreneurs seeking to build both personal and corporate visibility (Tata et al., 2017), while Snapchat is more suitable for

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engaging younger audiences, as the majority of its users are under 24 years old (Vaterlaus et al., 2016).

Social media adoption has a positive influence on marketing performance by enhancing communication with business partners, colleagues, and consumers. These platforms enable entrepreneurs to strengthen their market presence through diverse and adaptive communication methods such as videos, live sessions, and interactive content and to reach new customer segments via precise targeting strategies.

Market dynamics and the competitiveness of both established and new businesses have been significantly influenced by the growing power of the Internet and Internet-based social media, affecting the way entrepreneurs operate. During these years, digitalization has pushed a higher number of SM tools, because they create more opportunities to develop and share information and allow easier communication (Lafferty and Manca, 2018).

The widespread adoption of SM has sparked a growing interest in its application in business dynamics at different stages of a company's life cycle. In today's increasingly connected digital era, social media has become an integral component for businesses and organizations, fundamentally transforming how they interact with stakeholders, shape brand identity, and co-create value (Men and Tsai, 2016).

The SM has contributed to the manner in which companies interact and maintain relationships with social media users to promote innovation. Furthermore, it is argued that social media can offer companies substantial benefits and innovative work, including new ways of interacting and communicating with users to co-create value (Lusch and Nambisan, 2015).

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2.4 Social Media Strategies

SM has become helpful in constructing an organization's digital identity (Dawson, 2018), and it is widely known and used for building relationships in international markets with customers, distributors, and partners, because SM is considered an effective solution to overcoming geographical distance (Arnone and Deprince, 2016). In fact, they have positively affected the customer relationship management (Ghezzi et al., 2016).

In the current digital landscape, several social media platforms are widely used, including Facebook, Instagram, Snapchat, TikTok, and Twitter. Brands commonly leverage these platforms to engage their customers (Arora et al., 2019). Each platform serves different purposes, attracting various types of users, which in turn influences a brand's choice of platform for engagement.

For example, Facebook has become a primary channel for many brands to manage customer interactions, functioning as a strategic platform to build relationships and strengthen engagement. (Phua et al., 2017). Its features, such as groups, calls, and messaging via Facebook Messenger, also support the functioning of entrepreneurial ecosystems.

The diversity of social media platforms reflects the need to satisfy different human social and informational needs through distinct technological tools (Kapoor et al., 2018).

People who prefer socializing with friends typically use Facebook, while those who enjoy sharing photos and personal moments turn to Instagram. Conversely, individuals seeking to interact with a wider, often unknown community may prefer Twitter or LinkedIn.

Among these platforms, Twitter and Facebook stand out as the most widely used, becoming essential resources for young entrepreneurs to connect with the broader ecosystem.

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According to Stieglitz and Dang-Xuan (2013), social media platforms can be classified based on their primary orientation: those focused on professional knowledge, such as LinkedIn or Twitter, versus those oriented toward personal content or social interaction, such as Facebook or Instagram.

Overall, social media channels offer companies new opportunities to innovate, which can enhance their credibility, market success, and long-term sustainability, particularly for startups navigating competitive environments.

Those who aim to use social media effectively must first understand the need to implement marketing and promotional strategies that go beyond traditional norms (Chen et al., 2017). This is because consumers who engage with social media are fundamentally different from those of the conventional media era. Today, SM plays a strategic role in shaping consumer decisions, as they have transformed the way people collect and evaluate information about products and services. Consumers can now obtain insights not only directly from companies, but also from other individuals through online interactions and shared experiences. In Table 1, the taxonomy of social media strategies is summarized (Li et al., 2021).

Table 1: Taxonomy of the Social Media Strategies

<i>Social Media Strategy</i>	<i>Main Function</i>
Social Monitoring Strategy	To observe and analyze conversations, mentions, and sentiment on social media to identify trends, detect crises, and understand audience perceptions
Social Content Strategy	To create and distribute relevant and valuable content to attract, inform, and engage the target audience, building brand awareness and reputation.
Social Engagement Strategy	To foster two-way communication and interaction with users, aiming to build trust, strengthen relationships, and enhance community participation.
Social Commerce Strategy	To leverage social platforms for direct sales, product promotion, and integration with e-commerce functions (e.g., shoppable posts, product tags).
Social CRM Strategy	To use social media for customer relationship management, integrating customer feedback, support, and co-creation to enhance loyalty and satisfaction.
Influencer/Advocacy Strategy	To collaborate with influencers or brand advocates to expand brand reach, credibility, and authenticity among target audiences.

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Crisis/Reputation Management Strategy	To monitor and respond to potential reputation threats, manage public perception, and communicate transparently during crises.
Advertising/Promotion Strategy	To increase visibility and conversions through paid campaigns, targeting, and sponsored content.
Integrated Omnichannel Strategy	To coordinate social media activities with other marketing channels (e.g., website, email, offline events) for a consistent brand experience.

Source: Li, F., Larimo, J., & Leonidou, L. C. (2021). Social media marketing strategy: definition, conceptualization, taxonomy, validation, and future agenda. *Journal of the Academy of Marketing Science*, 49(1), 51-70

Digital channels are considered a “double-edged sword” as they can positively and negatively impact corporate reputation (Katsikeas et al., 2019).

In fact, although there are several benefits of adopting SM in international and national marketing strategies, it has been widely recognized by both academics and practitioners that there are several negative implications for businesses, for instance, exposing them to new risks (Geliskhanov Islam et al., 2018; Lo et al., 2025).

For example, since they have greater visibility on the platform, they could easily criticize the company’s actions and choices, causing adverse effects on the corporate image and consequently affecting their survival (Del Giudice et al., 2016). More specifically, once SM has been included in the marketing strategy, the company must constantly continue to monitor their use, improve its usage engagement to identify any problems that could eventually arise.

Consequently, firms cannot passively suffer the evolutions taking place in the digital scenario, but they must develop tools and models to support innovative business processes (Olivieri and Testa, 2024).

Before the advent of SM, communication was less effective, and accessing information or sharing ideas posed significant challenges for young entrepreneurs (Park et al., 2017). Consequently, SM can

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be seen as a key enabler in overcoming these barriers. The SM platform is used for information sharing, thereby creating trust and an enabling environment (Raza et al., 2020).

2.5 Social media and engagement

SM today is not just a channel for communication, but a real platforms that enable content sharing, product promotion, and consumer engagement. They allow companies to make the most of their potential by building relationships, increasing brand visibility, and gathering valuable feedback from customers (Tuten, 2023).

Thanks to their interactive nature based on mutual exchange, dialogue, and the creation of communities, SM provides organizations with unique opportunities to engage stakeholders and develop long relationships with them (Saxton and Waters, 2014; Veldeman et al., 2017).

In this perspective, Bruce and Shelley (2010) defined the concept of stakeholder engagement as “the interaction between an organization and those individuals and groups that are impacted by, or influence, the organization”. This engagement process can be seen as a dynamic exchange in which both organizations and stakeholders co-manage relationships and co-construct meanings, working together to achieve shared goals and mutually beneficial outcomes.

Although the concept of engagement could be interpreted in several ways, it depends on the research contexts, for instance, political engagement, patient engagement, but despite these differences in application, there is one point on which researchers agree. When talking about engagement with stakeholders, the communication should no longer be one-way, that is, someone speaking and others listening passively, but should become a two-way exchange, that is, an interaction in which both parties participate, they dialogue, listen to each other, and influence each other (Devin and Lane, 2014).

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Hence, engagement, conceived as a bidirectional and relational communication strategy, transcends the mere transmission of information and is grounded in an ongoing and reciprocal dialogue between organizations and stakeholders.

This approach allows an active participation of all actors involved. It creates shared value by fostering a more profound and reciprocal understanding of the needs, expectations, and perspectives involved. In this way, the engagement becomes not only an effective communication method but also a means to strengthen trust, cooperation, and the quality of relationships in the long term.

Engagement is not just communication, but a function of co-management; for instance, the organization is not alone in managing the relationship with the stakeholders, but both parties, i.e., the organization and stakeholders, actively participate and take on a shared role in the relationship. In this case, both parties can equally contribute to the decision-making processes, and together can co-create social capital, contributing to the possibilities of maximizing the benefits for both sides.

The degree to which patients receive adequate information, motivation, and support in making health-related decisions significantly affects their treatment adherence, adoption of healthier lifestyles, and overall satisfaction with the healthcare system. At the same time, SM contributes to strengthening healthcare providers' visibility on search engines, supporting patient acquisition and retention, and enhancing institutional reputation (Dorfman et al., 2018). How engagement manifests differs across stakeholder groups. For example, patients may actively participate by requesting additional information, making specific inquiries, following posts, and sharing content. In contrast, hospitals and healthcare professionals typically focus on the reliability and usefulness of the information provided (Pellegrini and Lovati, 2025).

The adoption of Corporate Social Relationship (CSR) communication strategies is often viewed as the enhance of public image of the company and strengthening relationships with stakeholders. The

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integrated use of social media further supports organizations in expanding their business reach and engaging diverse audiences (Fraccastoro et al., 2021). In this vein, Monaghan et al., (2020) highlight that digital ventures achieve international growth through stakeholder engagement, automation, networking, flexibility, and scalability.

Technological advancements and the widespread diffusion of social media have been key drivers in the development and transformation of relationship marketing (Steinhoff et al., 2019).

The proliferation of smart devices and the availability of high-speed Internet have made it easier for consumers to access brand-related information (Lamberton and Stephen, 2016).

At the same time, the user-friendly nature of social media platforms enables customers to share their opinions and attitudes toward brands through comments, likes, and shares (Buzeta et al., 2020). The growing popularity of social media applications has also reshaped the start-up ecosystem, influencing how entrepreneurs communicate, collaborate, and build networks. Social media tools are now widely adopted by both start-ups and large corporations to foster engagement and strengthen their market presence. Moreover, companies increasingly adapt their social media strategies to align with the cultural values, behaviors, and traditions of the countries in which they operate. This localization enables firms to better understand and respond to the needs and preferences of geographically distant customer segments, thereby enhancing their global competitiveness.

2.6 Content and functionalities of social media

In recent years, many researchers have investigated the influence of SM with particular attention to the process of stakeholder engagement and its dynamics (Chen et al., 2017). Specifically, research has explored both the antecedents, understood as the conditions or factors that foster the emergence of engagement, and the outcomes, referring to the effects and benefits that result from it. In essence,

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scholars have sought to understand how social media can facilitate stakeholder engagement, identifying the elements that trigger it and the implications it generates. In the literature, it was criticized that a large number of prior studies have concentrated only on static content, such as organization profiles on social media, without considering also the messages shared to the audience by organizations (Saxton and Waters, 2014). Against, Chen et al. (2017), had examined the use of SM for stakeholder engagement startups' considering both the strategic level, and the message level. (Men and Tsai, 2016), in the literature, have examined the five antecedents of SM stakeholder engagement that guide communication strategies of enterprises on SM. They have examined several components of that, that is, the content strategies, message appeals, functional interactivities, vividness, and messaging tactics such as the conversational human voice.

Rather than just pushing out information on social media, content strategies emphasize sharing material that is grounded in a clear understanding of stakeholders' needs, concerns, and interests (Men and Tsai, 2012).

According to Saxton and Waters (2014), when the organizations post a status, the content functions are summarized in information, promotion, mobilization, and dialogue.

The first dimension of the goal of strategies is only the information sharing of organizational-related information, because the company wants to maximize the impact of the organization's presence on social media (Waters et al., 2009), and here it follows the one-way communication highlights.

Indeed, the promotion and mobilization offer opportunities for stakeholders to be more involved and engaged with companies through participating in activities such as taking part in events or buying products and here the enterprise follows the one-way communication model (Saxton and Waters, 2014).

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In the third dimension, instead other dimensions there is a difference that focuses on creating dialogue with stakeholders in the online community. In this way, organizations can easily attract users to participate in interactive conversations, strengthening their relationships with them. For instance, this can be achieved through posting invitation-only information (Kent et al., 2003; Lovejoy and Saxton, 2012), which combines emotional and functional appeals. These last strategies are practiced with the assumption that people make decisions either rationally or emotionally, and these ways are related to people's psychological characteristics (Laskey et al., 1989).

The adoption of functional or rational appeals in persuasive communication is based on the use of logical and relational arguments that aim to convince the relevant public directly. In this approach, the focus is not on emotions, but on the objective and tangible elements that characterize the product or service, such as quality, economic convenience, performance, or overall value. These messages, presented in a transparent and salient manner, enhance the credibility of the offer and provide consumers with concrete motivation to inform their purchasing choices (Behboudi et al., 2014).

2.7 Social media measurement and evaluation

The applied strategies of SM need to be monitored. As affirmed the scholars Men and Tsai (2016), "No evaluation, no improvement", for this reason is essential in various disciplines to create and standardize social media measurement. In the literature, researchers have discussed three typologies for measuring social media-based stakeholder engagement.

The first, Muntinga et al. (2011), classifies users' online engagement into three levels: content consuming, content contributing, and content creation.

Many researchers have conducted several analyses to extract reactive and proactive engagement behaviors. For instance, Tsai and Men (2013) conducted a series of panel studies and a survey. Saxton

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and Waters (2014) argued that surveys and laboratory experiments might not be the best way to measure stakeholders' engagement behaviour due to measurement and observer effects. In fact, they further suggested that researchers embrace a more practical approach to investigating social-mediated strategic communication activities in natural settings.

Another typology developed is based on the natural matrix offered by social media platforms. The social media platforms such as websites, provide measures regarding the interaction of users with organizations through indicators such as likes, shares, and comments on Facebook (Cho et al., 2014), Instagram, and LinkedIn; replies and favourites on Twitter; likes, shares, comments, and subscribers on YouTube (Ji et al., 2017).

Banerji and Reimer (2019) affirm that startups communicate a lot on SM LinkedIn to create a business network with various stakeholders such as partners and customers (Robson and Banerjee, 2022), and it is used in several areas, such as sales, human resources, and marketing.

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Chapter 3. The Healthcare Ecosystem, Start-Ups, and Social Media Strategies

This chapter examines the role of high-tech start-ups within the healthcare ecosystem and their strategic utilization of social media to establish relationships and promote innovation.

The paragraph 3.1 describes the healthcare system and its actors, explaining the macro, meso, and micro levels and how they interact to co-create value. The paragraph 3.2 focuses on high-tech start-ups in the healthcare sector, defining their characteristics, challenges, and their role as innovative players in a complex and highly regulated ecosystem. The paragraph 3.3 examines the evolutionary phases of start-ups, from the pre-seed to the exit stage, highlighting strategies, risks, and key success factors at each step. The paragraph 3.4 discusses the main challenges that start-ups face in the healthcare sector, including trust-building with stakeholders, limited resources, and regulatory constraints. The paragraph 3.5 analyses social media strategies in healthcare, emphasizing their value as cost-effective tools for engagement, branding, and communication. The paragraph 3.6 deepens the discussion on how social media enhances communication, networking, and knowledge exchange, strengthening the growth and legitimacy of healthcare start-ups. Finally, the paragraph 3.7 introduces the Social Exchange Theory, explaining how it helps interpret the dynamics of trust, reciprocity, and perceived benefits underlying relationships between start-ups, patients, and healthcare institutions.

3.1 The Healthcare System and their Actors

The Healthcare System is a sector in which multiple actors and institutions operate among themselves. The healthcare environment can be divided into three levels, within which different actors operate with distinct roles and tasks, and together co-create value (Menear et al., 2019). Depending on the roles and tasks they are divided into these environments, i.e.: Macro-environment, meso-environment and micro-environment.

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The macro-environment is generally composed of actors who operate at the macro level and generally operate at the institutional level.

The micro-environment is made up of actors who carry out daily clinical actions and generally are in close connection with the patients for instance the doctors, territorial pharmacies and nurses.

Between the macro and the micro level there is a health meso-environment within which there are organizations and institutions that play a connecting role between the health policies operated at the macro level and the daily clinical activity generally carried out by the micro. The meso-environment includes players including hospitals, companies, and start-ups.

3.2. High-Tech Start-Ups in the Healthcare Sector

In the literature, start-ups have been the subject of many studies (Chakraborty et al., 2023, Olivieri and Testa, 2024) and are considered vital to economic growth in the modern society. Entrepreneurship is generally understood as the process of identifying an opportunity and transforming it into a concrete enterprise through the creation and development of a new business venture (Lo et al., 2025). To achieve competitive advantage, entrepreneurial initiatives must introduce innovative products or services that address customer needs (Lo et al., 2025).

Health-tech startups have emerged as key players in the healthcare sector, transforming how care is delivered, monitored, and experienced (Chakraborty et al., 2023). A start-up can be defined as the set of scalable and replicable business models that operate in a context characterized by risk and uncertainty. Typically very small and often serving niche markets, start-ups possess high scalability potential. They are agile and innovative, yet face a high likelihood of failure, with only a few achieving unicorn status. Born from novel ideas, these companies often experience rapid growth.

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However, to establish yourself as a radical innovator it is not enough to have capital: a strong propensity for risk is also necessary, accompanied by the willingness to experiment and, sometimes, face failure (Shahzad et al., 2020b). The appropriate criteria for defining the scope of a start-up include being newly established, actively operating, and independent (Petrù et al., 2019).

In recent years, the startups in the health-tech sector have redefined the boundaries of the healthcare industry, leading to its rapid evolution (Iyanna et al., 2022). Though there are different terminologies, such as e-health or digital health ventures, in the commercial startup and technology entrepreneurship domains, the health-tech startup is the most commonly used (Beaulieu and Lehoux, 2019).

Healthcare technology startups have become significant players in the healthcare industry. They have revolutionized the way healthcare is delivered, received, and monitored. In particular, thanks to the advent of cutting-edge technologies and the growing demand for more personalized and efficient healthcare services, healthcare technology startups have carved out a niche in the internal industrial landscape (Muhos et al., 2019). They may satisfy a small part of the market, but at same time, they have higher scalability potential. Their small dimension allow them to be nimble. However, start-ups have a high failure rate, with only a few continuing to stay in the market and becoming, according to the following terms, "unicorns."

If the idea is innovative and valuable for the target market, their contributions could be significant. Generally, start-ups that develop sophisticated medical inventions aim to reach the underserved market by reducing healthcare costs and increasing service delivery speed.

Health-tech startups are a delicate actor because they have stricter and rigorous data privacy regulations, must obtain regulatory approval for medical devices, and comply with ethical standards in medical research, as they have a significant impact on humans.

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Moreover, the healthcare ecosystem in which the high-tech startup is situated is characterized by its complexity and fragmentation, with a wide range of stakeholders, including patients, healthcare professionals, and investors (Fürstenau et al., 2021). Each of these actors has distinct needs and priorities, making it challenging for health-tech startups to develop solutions that meet the needs of all parties. But one of the most important priorities was represented by the final users of the technology startups that define the customer base.

Another critical characteristic is that the health-tech startups typically face longer sales cycles and higher barriers to entry due to the regulatory landscape and intricacies of the ecosystem. These factors can slow revenue generation and market traction, unlike startups in other tech sectors, which often benefit from faster adoption and simpler pathways to growth.

Unlike large and established companies, startups possess distinctive characteristics. For example, they typically operate with limited resources, and their corporate identity, reputation, and internal structures are still in the process of being developed (Chen et al., 2017). These unique features highlight the necessity for startups to adopt creative and innovative approaches in their strategic communication and branding efforts, rather than simply following the guidelines designed for established corporations.

3.3 Evolutionary Phases of Start-Ups

Generally, the startup is a business in the initial stages of creating a new business (Salamzadeh et al., 2017). As mentioned before, the start-up is a composition of scalable and replicable business models, based on an innovative idea that grow at a rapid pace. The start-up working in a risky and uncertain environment requires more capital to be a radical innovator. For this reason the startup has a high predisposition to risk toward experimentation and considering also the failure (Shahzad et al., 2020a).

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Start-ups on the evolutionary path face different phases, each characterized by different objectives, resources and strategies. The start-ups use the initial years to develop products without sales, so they depend on funding. In many cases in this phase the startup if survive during the early years and reach to achieve what has been required by founding members, it is due only for their commitment (Silva et al., 2016).

The startup generally have several phase during their life cycle (Cucari and Franzese, 2024). Each phase have their specific characteristics and strategies and requires several knowledges and resources.

- 1) The process begins with the conception phase, called *Pre-seed*, which takes the contours of an organized project and is generally an idea conceived by the founder or acquaintances. It identifies a market problem and develops an innovative value proposition.

During this stage, the idea is validated, which means it must be understood whether the concept is functional in solving a specific need and whether there is a market in which to enter. The activity change depending on the field. of this phase should be. In this phase, generally, the team isn't built, and there is only the founder. However, generally, during this activity, the founder must understand through efficient and economical methods whether the idea is innovative and valid. The founder (s) can conduct market research to understand the competitors in the market and can administer questionnaires or conduct interviews with potential clients.

- 2) The second phase is the *Seed*, which represents the first formal phase of the start-up. It's a validation phase, where the objective is to give a solid structure to the idea to enter the reference market. In this phase, the goal is to create a Minimum Viable Product (MVP) for market release. The idea of the prototype can be developed through the first feedback obtained during the first phase. Moreover the founders search for early adopter who can test the

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prototype and give the first feedback. During this phase, the first customers were purchased. In this phase, the business model can be refined to make the project sustainable and generate profit. The first financiers intervene in the seed phase, among which we find business angels, banks, accelerators, and crowdfunding platforms.

- 3) The *Early stage* is the crucial phase of the life cycle, where the enterprise must experiment with the market and acquire clients. In this phase, search for advisors who can help the startup grow. The product is launched on the market, with the primary objective of acquiring the first customers through marketing, sales, and partnership strategies, utilizing the available financial funds. The start-up can resort to two rounds of investments necessary to chase a large number of customers. Investments help enter new markets, develop new distribution channels, and consolidate marketing initiatives and strategies. During this phase on improving improved the procurement with the customers. In this phase the entrepreneurs have to demonstrate that the model business is scalable and can rapidly growth but at same time have to allocate the resources avoiding waste. Moreover, have to develop a good financial plan for searching the fundings. In this phase a good visibility can be more helpful for the start up because can be differentiate than other customers and earn the market share.
- 4) The *Growth* it represents the crucial phase of expansion of the start-up. After launching the product on the market you focus on extending the customer base and extending the revenue. Here is important to manage the growth of the startup, collecting the financial resource.
- 5) *Scale up* is the maturity phase where the startup try to optimize the management of the operations for to reach a sustainable growth. The start-up have to prove to have a scalable power and same time a product of high quality. In this phase the turnover of the enterprise growth a lot.

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- 6) *Exit* is the phase in which the start-up must carefully evaluate the company and decide the best way to exit. This is the phase in which the founders' efforts are evaluated. Once market position is established, start-ups can further exploit economies of scale and outcompete smaller rivals.

The small firms lack significant financial resources compared to larger firms (Burnes and Choi, 2015). For this reason, it is necessary that the startup to reach and extend the customer base has to utilize distinct forms of communication channels.

The start-up during the early stage must establish its advantage over others through the technology they employ and the market potential of their product or service (Marcus et al., 2013).

When the startup began the long journey, it had to face many challenges that change during the life cycle, but one primary issue that affects the failure of startups is the lack of history. These reasons allow the death of more than 60% of start-ups during the early stage of the life cycle (Lai and Lin, 2015; Melegati et al., 2019). This high rate leads start-ups to be highly competitive in the market (Passaro et al., 2020).

Since the early stage of the life cycle, the start-ups have to manage anxiety due to uncertainty and doubts in the environment and in the market.

3.4 Challenges of the start-up in the healthcare sector

Challenges are present in all sectors, and the healthcare sector presents many within which operating actors must move and position themselves on the market.

In particular, startups in the healthcare sector face difficulties surviving in the competitive market, and one weakness they must overcome is the sales and marketing of their products and services. This is one of the biggest challenges they face (Burnes and Choi, 2015; Spigel, 2017). Because the startups have limited financial resources, this can limit the efficient strategies on the SM.

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When startups attempt to engage their target audiences, such as patients, hospitals, and investors, they often encounter several barriers. Patients may face challenges related to the sharing of personal information when using new technologies, as well as limited digital literacy that hinders their ability to understand and use digital content effectively (Arias López et al., 2023). At the same time, hospitals and healthcare professionals carefully assess reputational risks. Before relying on or adopting a new technology, hospitals require robust scientific evidence and data demonstrating its accuracy, clinical effectiveness, and integration with existing systems.

Investors, on their part, must accept longer time horizons before obtaining returns on investment and tend to favor sustainable business models with measurable outcomes. Both hospitals and investors may hesitate to trust young startups, fearing that collaboration could compromise the quality and safety of care or fail to deliver adequate returns relative to the perceived risks. Similarly, patients may be reluctant to trust solutions proposed by emerging companies, while healthcare professionals may display scepticism toward tools that alter established clinical practices or require new digital competencies.

For these reasons, engagement with healthcare startups must be based on a gradual process of trust-building, grounded in transparency, scientific evidence, and adherence to ethical principles. These elements can be strengthened through strategic communication that clearly demonstrates the concrete benefits for each stakeholder involved.

The recent shift toward patient-centered care driven by consumer access to health information through the Internet, has laid the foundation for consumer health informatics (Dasgupta, 2023).

In marketing, the concept of consumer engagement (CE) has similarly evolved to emphasize long-term relationship building between brands and consumers (Lim et al., 2023). Between 2018 and 2020, CE became a strategic priority, helping marketing professionals develop sustainable engagement

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strategies. CE continues to represent an emerging and dynamic field of research, offering useful insights for healthcare start-ups seeking to strengthen relationships with patients and stakeholders (Lim et al., 2021).

3.5 Social media strategies in the healthcare sector

Although the advantages of adopting SM in start-ups' marketing strategies are well documented, implementation remains a complex process. Successful use of these tools depends on organizational factors such as managerial support and internal and external communication (Mahmoud et al., 2020). External factors, including consumers' willingness to share information and provide feedback, also shape how companies integrate SM into their marketing strategies (Baima et al., 2022). For new firms, a key challenge lies in understanding stakeholders' readiness to share knowledge.

SM represents a relatively low-cost solution that helps start-ups establish a corporate identity and engage with stakeholders (Basri and Siam, 2017).

The SM as relatively cheaper than other tools and this push the start-up in their use. The SM helps startup companies to establish corporate identity and engage with their stakeholders.

Given their resource constraints, start-ups use SM from the earliest stages as a direct, cost-effective means of interacting with ecosystem actors (Gloor et al., 2020).

SM has transformed entrepreneurial activity (AlSharji et al., 2018) by becoming the preferred channel for creating authentic relationships with audiences and enhancing a firm's market positioning. In the healthcare sector, SM has proven particularly effective for engaging patients and attracting new ones (Alalawi et al., 2019).

Healthcare professionals use SM to share messages, participate in forums, and disseminate scientific information (Dizon et al., 2012).

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A strong SM presence is now essential not only for established corporations but also for start-ups (Kaplan and Haenlein, 2010). Due to their limited budgets, start-ups use SM as a strategic and sustainable promotional tool (Basri and Siam, 2017), allowing them to promote their products, increase brand awareness, educate customers, and highlight their competitive advantages (Rus et al., 2018).

Building brand visibility and effective communication are central to a start-up's growth and market positioning. However, superficial SM use is insufficient. Start-ups must develop a strong presence on platforms most frequented by their target customers (Sharma and Bharathi, 2013). SM has introduced new dynamics in start-up-to-start-up and start-up-to-ecosystem interactions (Mujahid and Mubarik, 2021a), reshaping strategic thinking and reducing market uncertainty. Furthermore, SM enhances crisis management capabilities, contributing to organizational resilience (Mundottukandi et al., 2024). Maintaining an active social media presence is now a strategic requirement for start-up entrepreneurs (Gratell and Dahlin, 2018). Networking via SM supports ecosystem sustainability and drives meaningful results when strategically leveraged (Bashar et al., 2012). Compared to large corporations, start-ups derive powerful benefits from social media marketing due to its cost-effectiveness and capacity for stakeholder engagement (Caputo et al., 2022; Chen et al., 2017).

Consequently, many start-ups prioritize SM strategies over traditional, costly marketing approaches such as mass media advertising (Bresciani and Eppler, 2010). Beyond cost efficiency, SM humanizes brands, facilitates content sharing, and enables firms to understand customer needs better (Wei et al., 2023). Start-ups benefit by increasing brand awareness, boosting sales, improving customer service, and facilitating content distribution (Basri and Siam, 2017). Brand awareness—defined as stakeholders' ability to recognize or recall a brand (Rossiter, 2014)—drives consumer attitudes and loyalty (Aaker, 2012) and is a key factor for business growth (Keller, 1993). By building brand

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visibility through SM, start-ups achieve competitive advantages and greater market recognition (Matarazzo et al., 2020). Finally, SM serves as an effective communication channel for engaging stakeholders, increasing sales, facilitating business relationships, and attracting financial resources (Ghose and Han, 2011; Shriver et al., 2013). Start-ups with active management teams on SM are more likely to attract investors (Gloor et al., 2020). Moreover, SM facilitates connections with accelerators and incubators, helping start-ups access funding and growth opportunities (Hallen et al., 2020; Wise et al., 2024). Start-ups that use SM to interact with business angels also tend to secure more investment (Jin et al., 2017). Startups typically utilize Twitter to foster business-to-business and business-to-ecosystem interactions. Young entrepreneurs predominantly adopt it and can also serve to support sales growth (Pitafi et al., 2020). From the perspective of healthcare, patients now access information in radically different ways compared to the past, frequently seeking answers online at any time and from anywhere (Chaet et al., 2017). Moreover, SM plays a crucial role in crisis management, enabling rapid, transparent communication that helps maintain consumer confidence during reputational risks (Gruber et al., 2015). In an increasingly competitive and dynamic business environment, entrepreneurs must therefore keep an active presence on social media to communicate effectively with stakeholders and enhance brand trust (Gratell and Dahlin, 2018).

In the healthcare sector, social media have been progressively integrated into mainstream services (Farsi et al., 2022). Both health professionals and patients increasingly rely on these platforms as complementary tools to traditional healthcare systems.

Social media allow health professionals to share reliable information, disseminate scientific knowledge, and promote positive health behaviors to a broad audience (George et al., 2013). They also facilitate patient engagement, peer support, and public awareness about health topics.

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For start-ups in healthcare, these platforms offer a unique opportunity to build trust, communicate evidence-based benefits, and strengthen connections with patients, hospitals, and investors. The interactive nature of social media enables continuous dialogue, helping healthcare actors to overcome communication barriers and foster collaboration across the ecosystem.

3.6 Social Media Strategies and Communication in Healthcare Start-Ups

Marketing has radically impacted the entrepreneurial ecosystems (Autio et al., 2018), allowing firms to access larger markets and identify new opportunities (Li et al., 2018). The use of innovative marketing tools has enabled companies to expand their reach and interact with a wider network of stakeholders, contributing to the growth and competitiveness of entrepreneurial ecosystems.

The development of digital technologies and the diffusion of SM have transformed traditional marketing approaches. These tools now serve as key enablers of communication, knowledge exchange, and collaboration among various actors within the start-up ecosystem (Park et al., 2017). The growing integration of SM into marketing practices reflects a broader digital transformation process in entrepreneurship, requiring companies to adapt their strategies to the dynamics of the digital age through digital business strategies, customer search strategies, and social media promotion strategies (Kurpayanidi and Abdullaev, 2021).

The SM can improve the relationship with the companies because their implementation is really user-friendliness (Georgescu and Popescul, 2015).

Small companies such as start-ups can particularly benefit from the strategic use of SM, which can enhance their survival and growth in today's competitive environment (Banerji and Reimer, 2019;

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Eggers et al., 2022). Firms can employ SM as a strategic tool to strengthen their competitive advantage (Oh et al., 2017). The growing popularity of SM among consumers has also extended to start-ups and small firms, as it enables the implementation of strategies aimed at improving business performance (Lee et al., 2017).

Start-ups and SMEs increasingly use SM to achieve their business goals. One of their main weaknesses is the limited access to human and financial resources. Through social media, however, they can reach a wide range of stakeholders, including high-level ones, thereby fostering engagement and building mutually beneficial relationships (Khan et al., 2023). One benefit of the SM that generate the value is increase the sales through the sharing of content and moreover, supports customer relationship management and market research, allowing start-ups to allocate resources more effectively, enhance communication, and offer personalized services (Atanassova and Clark, 2015). Engaged consumers consequently exhibit higher levels of loyalty, satisfaction, empowerment, emotional bonding, trust, and commitment (Burnes and Choi, 2015).

Thanks to SM, start-ups can easily connect with customers, suppliers, and partner firms, reshaping their operational and interaction models within the broader ecosystem (Park et al., 2017). Early-stage start-ups must gain visibility and legitimacy, and social media platforms enable them to share messages and influence large audiences (George et al., 2013). In the healthcare field, SM channels are particularly valuable for disseminating health messages and promoting healthy behaviors among communities (Alanzi and Alsaed, 2019). They also reach diverse age groups, as for many—especially younger individuals—social networks are the primary source of both general and health-related information (Jain and Bickham, 2014). Effective social media communication is essential for start-ups to attract and retain their first customers (Gartner, 1985). For building an early client, the startups should use good communication tactics on social media platforms. SM allows them to engage

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key actors in the entrepreneurial ecosystem by discussing challenges, exchanging knowledge, and collaborating with diverse stakeholders (Raza et al., 2020).

Leveraging networking through SM opens opportunities to access tangible resources, such as capital and skilled labor, and intangible assets, such as social support, reputation, and information sharing.

Networking plays a crucial role for start-ups, as it facilitates resource exchange and fosters innovation, improving organizational performance (Ropuszyńska-Surma et al., 2022). Through these interactions, entrepreneurs gain new perspectives and reduce uncertainty by accessing valuable knowledge and shared experiences. In this sense, networks act as both a catalyst for innovation and a mechanism that enhances strategic choices, strengthening the overall competitiveness of emerging ventures. Furthermore, intangible resources such as knowledge and experience represent critical success factors for start-ups (Roure & Maidique, 1986). SM serves as a pivotal tool for enhancing knowledge management, fostering coordination, and facilitating the development of knowledge maps that improve organizational learning and information sharing (Ali et al., 2019). It also supports innovation-related activities by encouraging idea generation and collaboration among employees (Pitafi et al., 2018). Nevertheless, personality traits influence online collaboration (Zheng et al., 2020), and excessive use of SM can negatively affect performance due to technology-related conflicts and self-esteem issues (Khan et al., 2021).

Health promotion messages shared through social networks are often perceived as more persuasive than those communicated directly by experts. To maximize their impact, these messages should be tailored to specific population segments (Stellefson et al., 2020). Thus, firms must develop digital marketing capabilities that not only promote products but also educate, train, and engage patients (Barreto and Whitehair, 2017). SM platforms foster supportive communities that strengthen patient motivation, empowerment, and adherence, ultimately improving health outcomes. Moreover,

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effective SM strategies enable firms to differentiate their offerings, build trust, and reinforce brand loyalty (Fischer and Rebecca Reuber, 2014, Hennig-Thurau et al., 2015).

SM facilitates valuable interactions that enhance trust and brand equity (Olivieri and Testa, 2024) and serves as a key channel for healthcare organizations to share educational content, promote positive messages, and mobilize audiences toward public health objectives (Farsi et al., 2022).

3.7 Social Exchange Theory

The Social Exchange Theory (SET) is both a sociological and psychological concept that seeks to explain how and why relationships are formed and maintained between people (Zafirovski, 2005).

The central idea of the SET is that every social relationship can be seen as an exchange, where individuals assess the advantages and disadvantages of interacting with others. People tend to establish and continue relationships when they perceive the benefits outweigh the costs. If, on the other hand, the costs seem higher than the benefits, the relationship or interaction is less likely to be sustained or tends to break down. The benefits in this case refer to support, information, help, and emotional gratification, while the costs to time, energy, risk, and commitment. In the literature, the SET has been utilized in research to understand the motivations and behaviors that drive information-sharing activities (O'Brien et al., 2008). Each stakeholders have different expectations from the relationship than other stakeholders (Adongo et al., 2019).

Furthermore, SET has often been used to explain how knowledge sharing occurs in different contexts, such as SM and network platforms (Liu, 2017). However, the implementation of the tools is different depending on the context where they are applied, and the healthcare field is distinct from other businesses, because first of all, the healthcare companies' use of social media often serves data mining

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purposes and isn't easily accessible to health actors like institutional actors, hospitals, investors, and patients.

Because the hospital has a complex structure with several actors, and for the sensitivity of the contents. Hospitals and investors need to protect their reputations, so when they decide who to create a relationship with, they tend to interact only with interlocutors perceived as trustworthy and professional (Cairns et al., 2013). On the other hand, patients have a high level of sensitivity and uncertainty regarding the potential benefits and risks associated with their health decisions (Bansal et al., 2018).

In social interactions, resources are exchanged through a process of reciprocity, where positive actions are generally returned with similar actions between the parties. Conversely, negative actions may elicit negative responses (Gouldner, 1960). This principle is particularly relevant in online contexts, where individuals carefully evaluate whether the benefits of sharing or seeking information outweigh the potential risks. Before following a page or engaging with discussions or content on social media, users consider several factors, including potential costs and benefits, such as time investment, privacy risks, information gained, and emotional support (Chung et al., 2020). Several aspects influence the quality of the exchange in these relationships. First of all, the quality of these relationships is established between the two parties involved. The quality of the relationship is better when there is trust and mutually shared interests that can improve engagement. Otherwise, eventually, a lack of confidence can reduce the level of engagement (Organ, 1990). The SET framework helps us understand why individuals approach social media strategically, carefully balancing potential gains and risks. This applies to high-tech startups, hospitals, and patients alike, enabling all parties to derive value from online interactions within the sensitive healthcare context.

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Chapter 4. Methodology Approach and Research Design

This chapter outlines the methodology applied to answer the research question, describing the case study approach, sampling, data collection, and analysis procedures.

The paragraph 3.1 presents the research question and justifies the use of a qualitative multiple case study, following Eisenhardt (1989) and Yin (2009).

The paragraph 3.2 explains the sampling strategy. Using a purposive sampling method (Campbell et al., 2020), the study selected 14 Italian healthcare high-tech start-ups from an initial pool of 165 identified through institutional databases.

The paragraph 3.3 details the data collection process, which followed Eisenhardt & Graebner (2007). Data were gathered through 45 semi-structured interviews with entrepreneurs, social media managers, digital marketers, and content creators, complemented by secondary sources.

Finally, the paragraph 3.4 describes the data analysis, conducted through thematic analysis (Braun & Clarke, 2006). The process included coding, theme identification, and synthesis into a conceptual map of first-order concepts, second-order themes, and aggregate dimensions.

4.1 Formulation of research question

In order to answer the RQ and given the explorative research aim, this work conducts a multiple case study approach, analyzing fourteen Italian health tech startups. Forty-five semi-structured interviews were conducted. Considering the explorative objective of this study, i.e. to investigate how social media is used from health high-tech startups. A qualitative multiple case study analysis according to Eisenhardt (1989) and Yin, (2009a) guidelines. The high-tech startup industry was chosen as the research context of this study because it is a small and innovative industry of entrepreneurial

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companies that are based on digital innovations and use digital platforms for their business models and marketing strategies (Chammassian and Sabatier, 2020). Effective marketing strategies are considered essential for attracting target users and sustaining their engagement on these digital platforms by enhancing both the quantity and quality of interactions within these digital spaces (Rangaswamy et al., 2020).

In this context, the qualitative research fits with the research because there are several motivations. First of all is most appropriate in an exploratory study when the overall objective is respond to “how” questions seek to clarify a specific subject matter (Yin, 2009b). A multiple case study makes it possible for the researcher to discover differences and similarities between individual cases (Gustafsson, 2017). This allows for the replication of research results across cases. Secondly, it will enable the researcher to gain a holistic view of the phenomenon of social media use in startups, including how organizational strategies, national market dynamics, and global trends of digital platforms interact, influence communication practices, engagement with the public, and brand development (Khan, 2014). Third multiple case study analysis is appropriate to outline a (Eisenhardt and Graebner, 2007) complete conceptual framework on a specific phenomenon, broadening its understanding (Eisenhardt and Graebner, 2007). Multiple case methodology has become a widely accepted and used research method in the business and marketing sectors, both internationally and nationally (Andriopoulos and Slater, 2013; Ćwiklicki and Pilch, 2021), as it helps to uncover new dynamics and interactions between businesses and other actors, while providing insights into different contexts (Bansal et al., 2018). For these reasons, multiple case study methodology is considered highly suitable and widely applied in this research context.

Through the methodology approach, the aims is to answer the following RQ: How do healthcare start-ups adopt social media for improving stakeholder engagement?

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In this research, the term "stakeholders" was used because it encompassed the engagement of investors, patients, hospitals, and health professionals.

Finally, qualitative research employs a bottom-up, inductive approach, meaning that results emerge directly from the data themselves through the identification of themes and patterns (Creswell and Poth, 2016).

4.2 The purposeful sampling criteria

The research context of this study is the high-tech healthcare startup industry, which has been rapidly expanding in recent years and is increasingly attracting investors and institutional interest worldwide (Chakraborty et al., 2023). The health-tech market has experienced rapid growth over the past decade. In fact, by 2019, it was worth approximately \$106 billion, and by 2026, it is expected to reach around \$639.4 billion (Ugalmugle S. and Swain R.).

The focus is on Italian high-tech healthcare startups, given that the country has experienced a constant growth in the number of innovative ventures in this sector since the early 2010s especially from 2019 to 2024 (Start Up Italia, 2025).

Recent analyses (Politecnico di Milano, 2023) highlight that most of these startups operate in health fields where they are in the market, provide digital health solutions, such as medical devices, data analytics for precision medicine, and patient engagement platforms. Moreover, a smaller but relevant group of startups focuses on frontier areas such as robotics, AI-assisted surgery, and sustainability in healthcare technology.

In the academic literature for studies with a limited number of potential participants who have in-depth knowledge of the phenomenon under investigation, the purposive sampling method (Campbell et al., 2020). The purposive sampling method, Singh et al. (2021) is widely accepted in innovation

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studies as it allows the selection of research subjects that are representative of a specific phenomenon. For example, Khan et al. (2023) applied this approach to high-tech firms, showing how they can achieve higher stakeholder engagement by fostering mutually beneficial relationships, as demonstrated by Singh et al. (2021). Similarly, Olivieri and Testa (2024) employed it to investigate how high-tech companies leverage social media to access international markets.

In this case, the purposive sampling method is suitable for involving specialists with their relevant experience who operate in high-tech start-ups that provide technological products and services in the healthcare sector.

To build the sample frame, institutional sources were consulted, in particular the official directory of Italian innovative startups (The Global Startup Ecosystem, 2025). From this source, it was identified a group of high-tech healthcare startups operating in the fields mentioned above is around. The initial sample was around 160.

Then it was identified from this primary sample the health high-tech start up, that provides a product or service in healthcare start up, and their goals is to engage both the hospitals, investors and the patients. This criterion focuses on startups that interact directly with the final users, and B2B suppliers or companies selling to hospitals or other organizations. This criteria is relevant in accordance with the aim of analyzing the phenomenon under investigation regarding SM use for marketing strategies, and ensuring that the data collected is accurate. It was obtain the second sample of 60. Then it was decided to contact the identified via e-mail or LinkedIn the chosen start-up. After the startups confirmed their willingness to participate in the interviews, an initial call was organized with the entrepreneur in order to verify the presence of the necessary criteria for inclusion in the study. In particular, the following was evaluated:

- 1) The provision of a service or product aimed at stakeholders operating in the healthcare sector.

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- 2) The effective use of social media to improve stakeholder engagement.
- 3) The presence of at least two company figures with different backgrounds, capable of responding to the four specially developed questionnaires.

From the total pool of potential participants, only a portion of companies consented to participate in this study, yielding a participation rate comparable to that observed in similar research. Because first of all many start-ups don't use the SM to engage the stakeholders. Many start-ups that had given their availability were unable to provide the interview due to a lack of time, considering the difficulties that start-ups have to face, and some failed during this period. Therefore, the final sample obtained was 20. Subsequently, many start-ups that had given their availability did not conduct the interview in time, and the final sample consisted of 14 start-ups. However, a limited sample can still yield reliable and contextually accurate insights if the participants possess adequate expertise in the field under investigation (Romney et al., 1986).

4.3 Data collection

To ensure the robustness of the research design, as recommended by leading scholars (Eisenhardt and Graebner, 2007; Silverman, 2021), a multiple-case study analysis was conducted, drawing on various data sources. Following Singh et al. (2021), who highlight data triangulation as a key criterion for assessing the reliability and validity of qualitative methods in marketing research, multiple venues, time frames, and contexts were considered in the collection of primary data to increase the generalizability of the findings. Although the sample size was relatively small, additional sources of evidence were incorporated to enhance the reliability of the results. Precisely, beyond primary data, secondary data related to the research objectives were collected, including (1) official online documentation, (2) public statements, and (3) archival records (Table 2). In line with Yin (2009a), data triangulation was further ensured by reviewing detailed information on each selected startup

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(such as presentations and annual reports) and analyzing the social media pages of the fourteen startups in the final sample, as well as their corporate documentation. The secondary data were used to provide a general dynamic of the theme and as support of the primary data.

Table 2 – Main sources of evidence

<i>Constructs</i>	Adoption of the inter-organizational network model in PM. Social Media Strategies as Pillars of Stakeholder Engagement in PM Networks.
Primary data	
<i>Expert Interviews</i>	Questions about the use of SM for improve the stakeholder engagement
Secondary data:	
<i>Official documentation</i> <i>online</i>	Report Statista
<i>Archival records</i>	Documentations of start-ups companies, official websites and presentations slides
<i>Public Declarations</i>	Press releases of the startups companies

Source(s): Author elaboration

These secondary sources complemented the primary data collected from social media, allowing for a more comprehensive understanding of how health tech startups communicate, engage, and innovate in the digital environment.

Table 3 summarizes the different data sources collected and gives a brief overview of the fourteen health-tech startups included in the sample, as well as a description of the key informants interviewed. The interviewees were selected based on their direct involvement in the strategic and operational management of digital communication within the startups. Specifically, four key professional profiles were identified: the entrepreneur, the social media manager, the digital marketer, and the content writer.

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This combination of roles allows to ensure a multi-perspective understanding of the phenomenon under study. The entrepreneur provided insights into the company's strategic vision, business model, and positioning within the health tech sector. The digital marketer and social media manager contributed to explaining how strategic objectives were translated into digital actions, including platform selection, audience targeting, and performance analysis. Finally, the content writer offered a creative and communicative perspective, highlighting the processes behind message construction, tone of voice, and narrative coherence across platforms.

The inclusion of these professional figures was intended to capture both the strategic and communicative dimensions of digital engagement, allowing for a comprehensive exploration of how startups design, implement, and adapt their social media strategies in the healthcare innovation ecosystem.

Not all start-ups participated fully in the interview with the questionnaires as some ad hoc figures were missing from the start-up teams, mainly digital marketers and content writers. All the interviews are located in Italy in different Regions. In order to ensure participants' confidentiality, the thesis does not disclose any remarks linked to identifiable persons or organizations.

Table 3: Information on the profile of the startups interviewed key informants and data collected.

Start-up	No. of expected interviewees	Role/Professional figure	No. of actual interviewees
Start-up 1	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 2	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 3	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 4	4	Brand and Social Media Manager and entrepreneur.	2
Start-up 5	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 5	4	Brand and Social Media Manager and entrepreneur.	2
Start-up 6	4	Brand and Social Media Manager and entrepreneur.	2

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Start-up	No. of expected interviewees	Role/Professional figure	No. of actual interviewees
Start-up 7	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 8	4	Brand and Social Media Manager, Entrepreneur, and Content Writer.	3
Start-up 9	4	Brand and Social Media Manager, Entrepreneur.	2
Start-up 10	4	Brand and Social Media Manager, Entrepreneur.	2
Start-up 11	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 12	4	Brand and Social Media Manager, Entrepreneur, Digital Marketer and Content Writer.	4
Start-up 13	4	Brand and Social Media Manager, Entrepreneur	2
Start-up 14	4	Brand and Social Media Manager, Entrepreneur	2
<i>Tot. 14</i>	<i>Tot. 56</i>	<i>Tot. 45</i>	

Source(s): Author elaboration

The interview of four individuals from social media and start up community, is used to collect data. In the multiple case study, a research interviewee is the best technique to gather data. The interviews are conducted through Microsoft Teams, online meeting portals from February 2025 until July 2025. Each interview took about 1 h on average. These interviews were audio-recorded after asking the consent of the participants and each recorded interview was transcribed verbatim for data analysis. The semi structured interviews followed a protocol prepared by the authors based on an extensive literature review, which can be found in (Table 4.).

Table 4: Interview protocol

Interviewer	Question
Brand and Social Media Manager	<ol style="list-style-type: none"> 1. Could you briefly describe your role within the startup and how long you have held it? 2. When did you start using social media, and what were the main reasons behind this decision? 3. Which social media platforms did you choose, and why? 4. How did you identify your target audience and define your communication strategy?



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	<ol style="list-style-type: none"> 5. In what ways has the use of social media changed how you reach your customers? 6. Has the use of social media required opening new channels, forming partnerships, or reallocating resources? 7. How do you measure the effectiveness of your social media strategies? 8. What were the main challenges you faced in managing communication during the first months? 9. Has interaction with your online community led you to modify your offer or introduce new services/products? 10. In your opinion, what has been the most significant impact of social media on the startup?
Entrepreneur	<ol style="list-style-type: none"> 1. Can you briefly describe your role in the startup and how long you have held it? And what does the startup and the current phase do? 2. Have you used social media in your initial growth strategy? If so, which ones and how? 3. How did you decide which platforms to focus on in the beginning? 4. What objectives were you aiming for in the initial phase? 5. How did you monitor the results of social communication in the first months? 6. What did social media contribute to? And how? 7. Has the use of social media led to rethinking ways of relating to customers? 8. What elements of the business model have been modified or strengthened thanks to the use of social media? 9. Have you used financing, or investors, to strengthen digital businesses? What if it is less large or less expensive than other channels? 10. Do you think that the use of social media has influenced the business strategy or only supported an already defined model? And if so, how?
Digital Marketer	<ol style="list-style-type: none"> 1. Can you describe to me your role within the startup and the main activities carried out? 2. How did you integrate social media into your user engagement strategy? 3. What metrics did you use to track customer base growth? 4. What kind of content worked best to attract the attention of the target audience? 5. Has the use of social media led to the identification of new customer segments? 6. Has social customer acquisition changed your value proposition? 7. Have you changed the structure of distribution channels or key activities in response to social performance? 8. What tools or platforms have you used to optimize the management of customers acquired via social media? 9. What strategies do you think have brought significant results in terms of customer acquisition? 10. Do you think social media is more effective or efficient than other forms of marketing?
Content Writer	<ol style="list-style-type: none"> 1. Can you describe to me your role within the startup and the main activities carried out? 2. What was the most requested type of content in the first months of activity? 3. Have you adapted the language to reach new potential customers? If so, how? 4. What were the main challenges in communicating health-related content in a simple and engaging way? 5. Has the content marketing activity contributed to differentiating the startup's offering from its competitors? 6. Has engagement on social media generated new demands, partnerships or product lines? 7. To what extent has content strengthened or transformed the value proposition perceived by customers? 8. Has the adoption of a certain narrative or visual style influenced the positioning of the startup?

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	9. Have you worked with the marketing team or healthcare professionals to ensure the accuracy of the messages?
	10. How do you think content marketing has helped broaden or redefine the customer base?

Source(s): Author elaboration

A semi-structured interview with open-ended questions is used to collect data. The semi-structured interview allows the researcher to explore the experience of participants and gain insight into the issue under study. In the research, the authors interviewed four professional figures, namely: the first participant is working in a start-up as a brand and social media manager, the second participant is entrepreneur, the third participant is digital marketer and the fourth content writer. It was decided to interview not only physicians but also some key stakeholders, such as managers of pharmaceutical companies and software houses, to obtain a holistic view. These professional figures were selected because they represent key roles involved in the implementation and management of social media strategies within high-tech startups operating in the healthcare sector. Their combined perspectives provide a comprehensive understanding of how social media is used to build engagement an emerging and competitive context.

However, it was not always possible to interview all the planned figures, as some of these roles were not present within certain start-ups. At the beginning of each interview, participants were asked to specify their role within the organization and the length of time they had held that position, and goals. These first questions aimed at understanding whether the interviewee had sufficient knowledge to argue about this research. This information was used to contextualize their responses and ensure that the insights collected reflected their level of responsibility and experience within the start-up. It was considered their experience as a rich source as they are working in the team members of health-tech

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startups and are also recognized as healthcare domain experts. Therefore, insights from interviews helped us to identify the critical use of social media manager from the health high-tech startup.

4.4 Data analysis

Thematic analysis is a qualitative method designed to identify, and interpret patterns of meaning within a dataset (Braun and Clarke, 2006). It is not an approach but simply a method of qualitative analysis, which makes it independent of any theoretical perspective, leaving the researcher ample space to choose which theoretical and epistemological approach to adopt (Braun and Clarke, 2012). Originating from (Holton, 1975) work on *theme* in scientific thought and rooted in content analysis. Through this method combines systematic rigor with an exploration of implicit meanings, integrating phenomenological complexity with analytical precision (Joffe et al., 2011). Although widely used since the 1990s, its procedural clarity was established by Braun and Clarke (2006), who formalized six key phases of application. A “theme” represents a recurring and significant pattern related to the research question, which can be identified inductively, from participants’ experiences or deductively from existing theory. As it was mentioned before in the paragraph (4.1) the thematic analysis offers the possibility of exploring social phenomena by combining different types of data, which qualifies it as the most appropriate method of analysis for research questions of an exploratory nature.

The patterns of meaning identified must be relevant to the research purpose (Braun and Clarke, 2006). This method is particularly used when data is collected through semi-structured interviews, which allow key informants room for expression (Braun and Clarke, 2006; Joffe et al., 2011).

Thematic analysis is valued for its accessibility, flexibility, and independence from specific theoretical frameworks, making it particularly suitable for exploratory research and studies based on semi-structured interviews.

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The transcripts from the 46 semi-structured interviews, along with the company materials collected, served as the primary source for the data analysis.

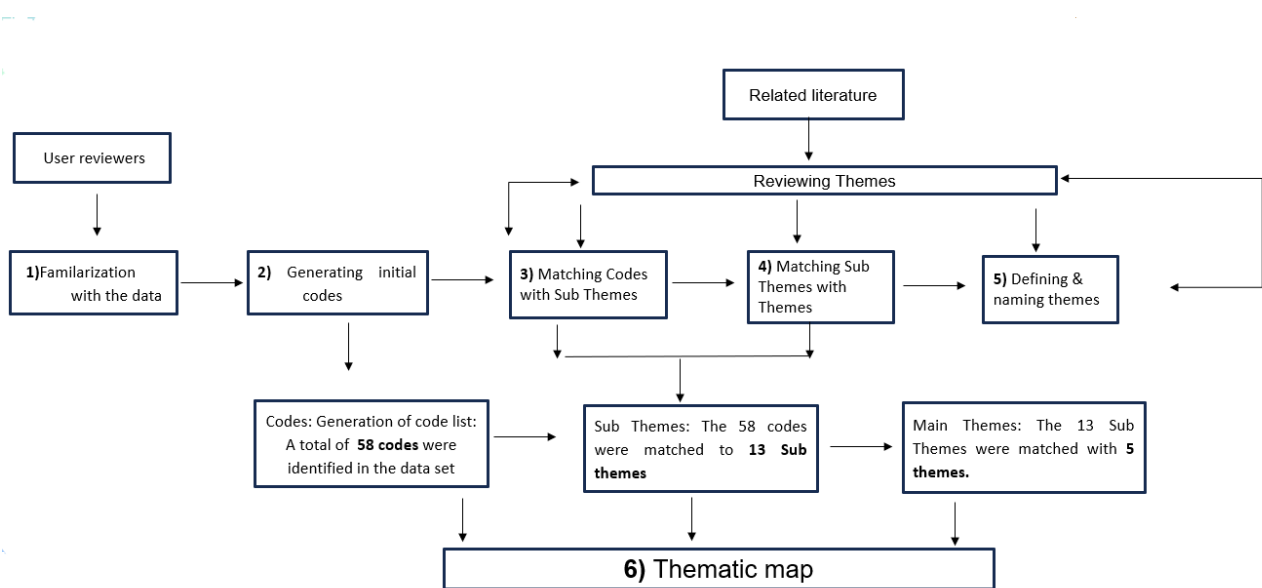
For the analysis, Braun and Clarke (2006) thematic analysis approach was employed, which involves six systematic phases: 1) Data familiarization: all interview transcripts and company materials were thoroughly read several times to gain an in-depth understanding of the content and to note preliminary observations and recurring ideas; 2) Generation of initial factors: the researchers began identifying and labeling meaningful data segments (codes) related to the research aim, capturing relevant concepts and repeated patterns across the dataset; 3) Identification of final factors and initial themes: the codes were then grouped into broader categories (factors) that represented potential emerging themes, highlighting connections and relationships among them; 4) Revision and refinement of the identified themes: at this stage, the preliminary themes were reviewed and refined by comparing them against the coded data and the entire dataset to ensure internal consistency and clear distinctions between themes; 5) Definition of final factors and themes: each theme was clearly defined, named, and described, specifying its meaning and how it related to the research objectives and theoretical framework; 6) Finalization of the analysis: the final set of themes was organized into a coherent narrative that formed the foundation for the interpretation and the development of the conceptual framework. The data collection phases ended when the saturation point was reached, because new information was not revealed or regularly repeated by the key informants (Bloor and Wood, 2006). This structured process ensured analytical rigor and transparency, allowing a systematic interpretation of the data. The entire procedure is summarized in (Table 5) with the first-order concepts, second-order concepts and aggregate dimensions. Starting from 13 sub-themes, they were grouped into 6 aggregated dimensions.

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Finally, the themes obtained from the analysis were discussed and interpreted to construct a conceptual framework based on a grounded approach (Charmaz, 2017).

Table 5: Entire process of analyses following the Steps of Thematic Analysis.



Source: Author elaboration

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Chapter 4. Findings

The fourth chapter presents and discusses the findings emerging from the empirical exploration. The objective is to provide an in-depth understanding of how startups operating in the healthcare sector strategically use SM to enhance their visibility, credibility, and value creation processes.

In the paragraph 4.1 it was presented the findings summarize the finding obtain presents the results obtained from the explorative analysis. In the paragraph 4.2 it were discussed the findings and then in the paragraph 4.2.1 it was described the conceptual framework.

4.1 The results of Thematic analysis

The thematic analysis revealed five main themes (See Table 6 below): 1) The benefits of the SM; 2) Personalisation of communication strategies; 3) The impact of social media on the business model; 4) Metrics and performance measurement and 5) Challenges in tailored communication. Each theme, highlight the main evidences and illustrate them with representative quotations from the interviews:

- 1) *The benefits of SM:* This theme highlights the main benefits of SM use by startups. The findings show that SM represents a strategic lever in brand management. Social platforms are not only used as tools for communication or promotion, but as strategic channels to build brand recognition, generate trust, and achieve market differentiation—elements considered essential for the survival and growth of startups, especially in sensitive and complex sectors such as healthcare. (Below there are the main subthemes, discussed individually.). Building and strengthening brand identity.

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Social media enables startups to express and reinforce their brand identity through consistent visual and narrative elements that convey distinctive values and the company's mission. As one entrepreneur stated: *“Social media strengthened our identity as pioneers and technology leaders. They allowed us to position ourselves as a source of knowledge, not just as a provider of products and services.”* Creating valuable content is perceived as the most effective strategy to consolidate this identity: *“The most effective strategy was creating value-added content, which helped us build thought leadership. Instead of investing in advertising, we focused on an organic approach based on trust and market education. This generated a steady flow of clients and partners who trusted us even before the first contact.”*. Through this, startups take on a role identified as follows: *“From this perspective, social media becomes a means of legitimization through which startups define who they are and what role they want to play within their ecosystem.”*.

Brand awareness and recognizability. Social platforms play a key role in expanding brand visibility and increasing awareness among new market segments. The goal is to enhance brand awareness and improve top-of-mind recall, ensuring that the brand is the first thought that comes to mind when a relevant need arises. *“Our main goals were twofold: first, to consolidate the startup's credibility and highlight the founders' expertise in the healthcare sector; and second, to prepare the ground for our proprietary products by creating visibility and brand recognition. Lead generation was not the main goal—positioning and trust-building were.”*

Brand recognizability is therefore seen as a precondition for attracting clients, partners, and investors, rather than an immediate result in terms of sales.

Market positioning and differentiation. Another emerging aspect concerns the ability of social media to help startups position themselves and differentiate themselves from competitors. *“Our*

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content marketing activity was the main driver of differentiation. While competitors focused on selling products, we positioned ourselves as experts and educators. Our content didn't focus on what we sell, but on why we do it, building a brand identity rooted in knowledge and innovation."

By sharing educational and informative content, startups create a thought leadership image, consolidating their role as innovative actors. *"In a sector where our technologies were little known, we needed to position ourselves as experts and pioneers. We wanted professionals to think of us when they spoke about lighting and innovation."* This kind of positioning is essential to build a competitive advantage based not on price or product, but on perceived competence and trust. Engagement and trust-building.

The use of social media also allows startups to establish a direct and interactive relationship with their audiences, strengthening trust and a sense of belonging. They leverage tools such as user-generated content, participatory campaigns, and community management to stimulate dialogue and build a loyal follower base. *"Social media didn't revolutionize our reference markets, but they allowed us to reach niche audiences interested in our solutions, such as startups and tech SMEs with which we later established collaborations, or sports professionals interested in AI-based monitoring tools."* *"Social media transformed our approach from 'hunting' to 'attraction.' Instead of searching for clients through traditional advertising, we positioned ourselves as a knowledge resource and a reference point in the sector. This built trust and encouraged clients to approach us proactively."* *"Patients felt listened to and understood and noticed a difference in our storytelling compared to what they heard from general practitioners or endocrinologists. This increased their trust and willingness to try our product."* In sectors where trust is a key prerequisite, such as healthcare, engagement and

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transparent communication are strategic. The credibility achieved online contributes to generating new collaboration opportunities with clinics, industrial partners, and investors. *“Content marketing expanded our customer base by attracting market segments we hadn’t initially considered. At first, we focused on designers, but thanks to accessible and educational content, we began attracting architects, developers, and IoT-focused company managers. This redefined our customer base, showing that our market was much broader than we had imagined.”*

2) *Personalization of the Communication Strategy:* This theme collects evidence showing that the choice and use of social media are strongly influenced by the startup’s business model—particularly whether it follows a B2B (business-to-business) or B2C (business-to-consumer) logic—and by the type of product or service offered. Startups therefore adapt platforms, content, and tone of voice consistently with their communication goals and audience type.

Adaptation to business models. Startups operating in B2B markets favor channels focused on credibility building, professional networking, and sharing of informative content—such as LinkedIn, newsletters, and webinars. In these cases, social media are integrated with traditional channels based on communication needs and audience characteristics. The social media manager: *“We opened a LinkedIn page because it is mostly used by institutional stakeholders. It felt the most natural choice since our audience included universities, public entities, and health stakeholders—not the general public, who are not yet ready to perceive scientific innovation as social progress rather than just as a business opportunity.”* *“We mainly use LinkedIn because it’s the most suitable platform to communicate with universities, institutions, investors, and potential partners, who have always been our main interlocutors.”* LinkedIn is indeed the most commonly used platform among startups with B2B or B2B2C models due to

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its effectiveness in fostering professional relationships, recruiting, and interactions with investors and healthcare professionals.

Conversely, B2C startups adopt a functional diversification of channels, choosing platforms like Instagram, Facebook, and TikTok for direct dissemination, patient engagement, and the promotion of experiential content such as sports projects or awareness campaigns.

“The use of social media enabled a much more widespread diffusion of our message, reaching people we otherwise couldn’t have reached. Many patients, after watching videos on social media, contacted us for more information. This helped attract users from different regions of Italy.” Adaptation of visual content. Depending on the chosen platform, visual content is differentiated. *“Through Instagram and Facebook, using a more visual approach, we engage a broader audience. Our communication has always been focused on education and dissemination, to help people understand the value of our technology.”* Differentiated communication objectives. Communication goals also vary according to the business model. B2B startups aim to generate qualified leads, build professional relationships, and strengthen reputation and authority in their field. *“Our target is twofold: professionals such as designers and architects, reached via LinkedIn and X with technical content.”* B2C startups, instead, focus on increasing brand awareness, stimulating interaction, and promoting direct conversions: *“For a broader audience interested in innovation, we engage them through Instagram and Facebook using a more visual approach.”* Variation in tone and content. Tone of voice and content type differ significantly depending on the business model. In B2B startups, communication is technical and informative, focusing on data, case studies, and white papers to strengthen credibility and authority. *“Our language was very technical, aimed at engineers and designers.”* In B2C startups, the language is more emotional and narrative, based on

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storytelling, visual content, short videos, influencer marketing, and experiential narratives to engage and retain the final consumer. *“We realized that to reach a broader and more diverse audience, we had to use a more universal language.” “Concrete and practical content worked best, for instance, case studies on AI use in healthcare or sports, demos of developed solutions, and updates on innovative projects. Posts that simply explained how a technology could solve a real problem generated more interest than overly technical content.”*

To enhance consumer engagement, customized content such as “short videos or informative clips about the drugs used, including patient testimonials and reviews” is frequently used.

3) *Impact on the Business Model:* This theme collects evidence on how social media can influence and/or support the startup’s business model. In general, SM act as amplifiers of corporate strategy, increasing the visibility and solidity of the value proposition without necessarily changing the strategic direction. *“Social media only supported an already defined model since our strategy has always focused on the patent, scientific analysis, and dialogue with institutions. Social media accompanied this path but never guided it.” “Social media helped us communicate our value proposition more clearly and effectively to different audience segments.”* At the same time, social media can directly impact the business model by fostering improvements in the value proposition. Interaction with the public and user feedback led to the introduction of new services or market-driven adaptations: *“They led to adjustments along the way to improve product communication and sales, and even to the creation of additional customized offers.”* Dynamic is linked to the startup’s lifecycle.

The influence of social media also depends on the startup’s stage in its lifecycle. In the early phases, SM supports the business model, validates the market, and helps create a community.

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In later phases, user feedback and engagement guide product and service evolution: *“At an early stage, social media supported our business model by helping us reach the target audience, communicate values, and build a community. Later, they influenced strategy by providing valuable insights to develop new services.”* *“Social media first validated the market and built credibility, then provided insights that guided the evolution of our offer and long-term strategy.”* Finally, social media are perceived as cost-effective, efficient, and agile tools compared to traditional marketing channels: *“Our social media strategy, based on an organic and value-driven approach, allowed us to build a solid reputation with minimal costs.”* *“Social media proved more effective and efficient, allowing us to reach and engage niche professional audiences, building trust and authority with minimal investment.”*

4) *Metrics for Measuring Social Media Performance:* This theme summarizes the evidence on how startups measure social media outcomes, which are used as touchpoints with various stakeholders. Findings indicate that measurement strategies vary according to the company’s development stage and objectives—qualitative metrics. In early or pre-commercial stages, effectiveness is mainly evaluated through qualitative engagement-based metrics. Startups assess interactions, reactions, comments, network growth, and collaboration or information requests as indicators of stakeholder interest and relationship consolidation. *“Since we don’t have a formal strategy, we don’t talk about structured metrics. We observe interactions (likes, comments, shares) as signals of interest, but for us the real value lies in maintaining relationships with those already familiar with the project.”* *“As we are still in the initial phase, we don’t directly measure leads. Instead, we monitor engagement, follower growth, and website clicks—useful indicators to support customer base development in the future.”* Quantitative metrics. In later, post-launch phases, startups use quantitative metrics

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focused on the number and quality of qualified leads, demo or information requests, and the contribution of social media to new business opportunities. *“For our proprietary products, we assess social strategy effectiveness using indicators such as the number of qualified leads and requests for information or demos. These data allow us to measure how social media help raise awareness and open commercial opportunities.” “We mainly used LinkedIn as a relationship and contact tool, integrating it with internal CRM tools to track opportunities and manage follow-ups.”* Some startups also integrated marketing support tools like HubSpot to manage contacts from social media, assign tasks, and monitor requests to avoid losing opportunities: *“We’re currently using HubSpot, which assigns us tasks and new contacts generated through requests for information from our social pages.”*

5) *Challenges in Using Social Media:* This theme gathers evidence on the challenges startups face in communicating through social media. These challenges concern the ability to communicate complex content clearly while maintaining credibility and coherence across multiple public channels. Balancing technical rigor and clarity. One of the main challenges is balancing scientific and technical rigor with clear and accessible language—ensuring credibility while being understandable to a broader audience. *“The main challenge was balancing scientific accuracy with clarity. It was important to avoid excessive technicality while keeping complex concepts understandable, without losing reliability or authority.”* *Customer-centered communication. “The main challenge was to emphasize potential clients’ needs and clearly communicate how our solutions could meet them. This required a major effort to translate technical content into messages that were understandable and relevant to the target audience—without losing precision or credibility, especially in sensitive sectors like healthcare and sports.” “One of the main challenges during the first months was creating content that was*

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both scientifically accurate and accessible to a wide audience. Digital rehabilitation generates interest, but its value is not always immediately understood due to cultural and technological barriers. Our strategy was to focus on clinical evidence to demonstrate the solution's value, alongside communication of company solidity and compliance with European medical device, privacy (GDPR), and safety regulations. It's not always easy to be understood quickly, but we believe this is the right path to building long-term trust and credibility." This led startups to encourage collaboration between professionals from different domains, scientific and marketing, to ensure such a balance: *"Collaboration was essential. I worked closely with the marketing team to align content with business goals. For more technical materials, I collaborated directly with engineers, R&D staff, and even external experts to ensure maximum message accuracy and proper explanation of technological concepts."* Adaptation of language and platform consistency. Another challenge concerns the personalization of language to fit both the platform and target audience: *"We focused on the audience's needs, explaining not only the solution but also the value it brings and how it fits into existing care pathways, improving their management and long-term effectiveness."* Consistency across multiple platforms. Finally, maintaining coherence across different platforms was another challenge: *"Another challenge was maintaining a coherent and authentic narrative across various platforms, while adapting tone and format to each channel."*

Table 6: Findings of the analysis, themes, sub-themes and codes that emerged from the thematic analysis

Themes	Description of themes	Sub-themes	Description of sub-themes	Coding and Number	Key sentences extracted
	This theme highlights how		This subtheme collects	Brand Identity	"Social media has



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1) <i>The benefits of SM</i>	SM represent a strategic lever for startups in brand construction, consolidation and positioning.	1) Building and strengthening brand identity	evidence of how MS represent a strategic tool for start-ups to build and consolidate their brand identity.		<i>strengthened our identity as pioneers and technology leaders”</i>		
				Distinctive Values	<i>“to focus on clinical evidence to concretely demonstrate the value of the solution, alongside the communication of company solidity and full compliance.”</i>		
				Communication of reality	<i>“communicate our solution, tell the company reality”</i>		
				Organic Communication	<i>“organic and valuable approach, allowed us to build a solid identity”</i>		
		2) Reinforcement of Brand awareness	Social platforms expand the visibility of the brand and consolidate its credibility, creating trust and recognition in the market.			Visibility	<i>“Thanks to social media we have increased the number of contacts and improved the visibility of the brand”</i>
						Trust	<i>“It has allowed us to build trust and have customers proactively seek us out.”</i>
						Recognition	<i>“Consolidate brand recognition”</i>
						Credibility	<i>“First they have improved brand visibility and recognizability, allowing us to</i>



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					<i>present ourselves more solidly to both potential customers and strategic partners."</i>
				Awareness	<i>"Social media has strengthened the awareness part"</i>
		3) Positioning and differentiation	Social media helps startups position themselves as expert and innovative, differentiating themselves from competitors through educational content.	Positioning	<i>"Social media has strengthened the positioning part"</i>
				Differentiation	<i>"It has helped elevate our product and distinguish it from its competitors"</i>
				Competitor analysis	<i>"Differentiating ourselves from competitors who communicated in a more generic or promotional way"</i>
				Educational Content	<i>"We use social media for educational content"</i>
		4) Engagement and confidence building	Social media fosters authentic relationships with the community, transforming the approach from 'hunting' to 'attraction' and sometimes generating forms of collaborations.	Involvement	<i>The use of social media is certainly more widespread and manages to reach where we would not have reached. Patients call, ask for info because they saw the video on social media and request info</i>
				Relationships	<i>"We utilize the SM for create strong relationship of networking"</i>
				Trust	<i>"We have included some aspects of assistance precisely to be able to guarantee greater service to our customers and involve them more"</i>
				Community building	<i>"Social media has added an ongoing</i>



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					<i>communication channel, however, which allows us to keep attention alive and update the community."</i>	
				Collaborations	<i>"Through social media we have started collaborations"</i>	
2) Strategic choice of channels	This theme collects how the choice of social media is strongly influenced by the business model.	1) Adaptation to typology to Business Model	This subtheme highlights how the choice of social channels is closely linked to the start-up's business model.	Channels and B2B	<i>"We focused mainly on LinkedIn, because it is the privileged channel for dialogue with stakeholders, partner companies and healthcare sector operators"</i>	
				Channels and B2B2C	<i>"We chose LinkedIn because our business model is primarily B2B2C: we target clinics, therapists and investors."</i>	
				Channels and B2C	<i>We use Instagram for valorize our sport product</i>	
				Multichannel	<i>We use more SM for our odel of business</i>	
		2) Personalization of voice and content		This theme summarize how in relation of choice of channels it necessary adapt the voice and content	Storytelling	<i>The patient felt mostly understood and noticed a difference in storytelling compared to what was said by general practitioners or endocrinologists.</i>
					Visual Content	<i>"We use Instagram... with more visual and immediate language."</i>
					Short Videos	<i>"videos or pills of information about the drugs used with direct</i>



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					<i>reviews and testimonials from our patients”</i>
				Case study	<i>“Concrete and application content, such as use cases of AI in healthcare or sport, worked better”</i>
3) Social Media and Impact on Model of Business	Social media can support or strengthen the business model depending on the stage they are. It's depend on the phase of the start up	1) Support for the existing business model	Social media acts as amplifiers of the company strategy already defined, making the business model more visible and solid without changing its strategic direction.	Business Model Support	<i>“Social media has not substantially changed our business model, but it has contributed to strengthening some important aspects”</i>
				Visibility	<i>“We use Instagram... with more visual and immediate language.”</i>
				Clear Communication	<i>"Social media has helped us better communicate our business model, and strategy, making it clearer and more immediate."</i>
		2) Influence on value proposition	Through user interaction and feedback, social media can improve the value proposition, introducing services or adaptations required by the public, making communication clearer and more immediate	Customer Feedback	<i>“The social media have become a real source of insights that has guided the evolution of our offer”</i>
				Offer adaptation	<i>“These changes have also led to the creation of additional personalized offers or otherwise introduce the offer to offer a plus to our customers.”</i>
				New Services	<i>"The interaction with the community has led to changes in our</i>



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					<p>offering by introducing new services that we did not previously have in the value proposition."</p>
				Product Improvement	<p>"We have included some aspects of assistance precisely to be able to guarantee greater service to our customers and involve them more."</p>
		3) Economic efficiency	Social media are perceived as economical and agile tools, more efficient than traditional marketing channels, allowing visibility, authority and engagement to be achieved with limited investments.	Cost Efficiency	<p>"We have managed social communication internally, with limited resources and with certainly lower costs than other forms of promotion."</p>
				Minimum Investment	<p>"SM requires with limited resources and certainly lower costs."</p>
				Impact Maximization	<p>"Social has proven to be much less expensive and more agile tools to give visibility and strengthen our presence in the industry."</p>
4)Types of measurement of SM	The theme highlights how start-ups measure social media outcomes.	1) Qualitative metrics in the early stages	In the pre-commercial phases, start-ups measure the effectiveness of social media through qualitative metrics related to engagement, such as interactions, reactions,	Likes, Comments, Shares	<p>"We consider any kind of meaningful interaction, such as reaction to posts, comments"</p>
				Stakeholder interest	<p>"We measure the effectiveness of social strategies primarily through engagement and growth in the number of followers."</p>

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			<p>comments, growth of the professional network and requests for collaboration or information. These indicators help to assess interest and consolidate relationships with stakeholders.</p>	<p>Qualitative Feedback</p>	<p><i>"The results have been monitored especially in qualitative terms: contacts initiated on LinkedIn, opportunities for interviews with potential collaborators and signs of interest from companies."</i></p>
				<p>Potential Leads</p>	<p><i>"Qualified contacts generated and requests for information or demos"</i></p>
				<p>Reactions</p>	<p><i>"We measure the number of the reactions of the users"</i></p>
				<p>Quantitative Metrics</p>	<p><i>« Currently a tool, hubspot that assigned us tasks and new contacts who had sent a request for information via social pages."</i></p>
				<p>Follow-up</p>	<p><i>"Mainly used LinkedIn... alongside internal CRM tools to track opportunities and manage follow-ups."</i></p>
				<p>Lead Monitoring</p>	<p><i>"together it with internal CRM tools to track opportunities."</i></p>
5) Social media challenges in communication	This theme collects all the evidence regarding the challenges encountered by start-ups in communicating	1) Personalization of the content focused on the clients	This theme summarize that the communication should be focused on the clients	<p>Personalization of the content</p>	<p><i>"adapt the contents for the need of patients like storytelling"</i></p>
				<p>Relevant content</p>	<p><i>"understand the message that the clients think are relevant"</i></p>



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via MS. The challenges relate to the ability to communicate complex content clearly, maintaining credibility and consistency across different channels and audiences.	2) Balancing technicality and clarity	Communication must maintain scientific and technical rigor, but be understandable for a wider audience. This requires collaboration between scientific and marketing teams to ensure accuracy and clarity.	Personalization on the clients	<i>"The main challenge was to emphasize the needs of potential customers and to be able to clearly communicate how our solutions could represent a concrete response to their needs."</i>
			Balancing Language	<i>"One challenge is to balance the clarity of the word with scientific and technical meaning"</i>
			Scientific Accuracy	<i>"Particular effort to translate the technical contents"</i>
			Team collaboration	<i>"To reduce the challenges the social media manager collaborate with medical professionals"</i>
			Message Accuracy	<i>"Without losing precision and credibility."</i>
	3) Personalization and consistency of language	Content must be adapted to different platforms and targets.	Customization Language for the platform	<i>"Personalize the message in according to the platform"</i>
			Multi-Channel	<i>"Personalize the content in according to a specific platform"</i>
			Tone of Voice	<i>"Moderate the voice"</i>
			Specific Target	<i>"Adapt the language for a specific target"</i>
	4) Consistency and adaptation in multi-platform communication.	This challenge emerges when the start up uses more of one social media and in this case have pay attention to maintain the same identity.	Adaptation on platforms	<i>"One challenge is to adapt the content using several platforms that have a different form"</i>
Align brand identity			<i>"Adapt the identity of the start up with the aim of the platform"</i>	

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				Align voice	“Align the voice using several platform is one significant challenge”
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Source(s): Author elaboration

4.5.1 Discussion of the results and development of a new conceptual framework

The analysis revealed that startups benefit from using social media (SM) in several ways — notably by strengthening their brand identity and recognition in the minds of their target audiences, positioning themselves in the market, and differentiating from competitors. Most importantly, they succeed in increasing consumer engagement through storytelling strategies that foster more authentic and lasting relationships with their communities. Furthermore, the second theme highlighted that social media communication must be adapted based on the startup’s business model. The choice of social media platforms depends on whether the startup operates under a B2B, B2C, or even B2B2C model, as this determines whether communication targets institutional stakeholders such as hospitals or end consumers. As widely discussed in the literature, startups with a B2B business model tend to rely on networking to engage stakeholders of interest, such as hospitals or investors (Ghezzi et al., 2016). In line with this, the analysis showed that some startups were excluded from the sample because they did not use social media as an engagement tool, having already established direct and consolidated contacts with their key stakeholders. While this approach facilitated immediate communication, it also reduced the time and resources devoted to managing social media. However, among the interviewed startups, those with a B2B model were found to make active use of social media to engage their stakeholders, particularly when composed of young teams lacking an already established local network. In such cases, social media become essential tools for increasing visibility

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and strengthening the firm's legitimacy within its ecosystem. Platform choices are strongly influenced by the adopted business model: B2B startups tend to favor LinkedIn, because it is a fast-growing professional networking tool that allows interaction with over 850 million members in more than 200 countries (Sheth, 2020). LinkedIn enables startups to build their social connections and communicate the value of these relationships to various stakeholders (Banerji and Reimer, 2019), positively influencing their engagement (Mora Cortez et al., 2023). By contrast, B2C startups prefer platforms such as Instagram, TikTok, or Facebook. The choice of platform also determines the need to tailor communication content, adapting it to the strategic purpose and target audience of each channel. Moreover, tone and content style also differ: platforms like LinkedIn, being more formal, require technically oriented content, while Facebook and Instagram encourage a more accessible, visually engaging communication style, often characterized by images, colors, and emotional storytelling. This diversification generates several communication challenges — the most significant being the translation of complex scientific content into messages understandable to non-specialized audiences, such as patients, without distorting the meaning. This need requires close collaboration between healthcare professionals and social media managers to ensure both scientific accuracy and communicative clarity. Social media can also impact the business model by amplifying the corporate strategy, increasing its visibility among a broader audience, and allowing the collection of direct user feedback, which can guide potential strategic adjustments. The impact of social media on the business model also varies depending on the startup's development phase: in the early stages, they serve as cost-effective and efficient tools for building legitimacy and visibility; in later stages, they become an integral part of CRM strategies. The personalization of content according to platform, design, and audience type represents another strategic challenge, as it requires balancing adaptation and consistency, managing different languages and heterogeneous publics, and allocating adequate

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resources to ensure an effective and integrated message across all channels. Startups use different social media platforms to communicate with their stakeholders for a variety of purposes. Generally, to maintain uniformity across platforms, startups tend to post similar content on all their channels (Rowley, 2001). However, in this research, B2C startups using multiple social media platforms reported difficulties in maintaining a consistent brand identity. Finally, another challenge lies in developing communication that is genuinely patient-centered, capable of clearly conveying how the product or service represents a concrete and meaningful solution to their needs.

The Start-up use different social media platforms to communicate with their stakeholders for a variety of issues. Generally for maintaining uniformity over different platforms, the start-up tend to have same content on their platforms (Jha and Verma, 2024). However in this research the start up with B2C that use different social media have the difficulty to maintain their identity. Finally, a further challenge consists in building a communication truly centered on the needs of patients, capable of clearly conveying how the product or service represents a concrete solution.

The thematic analysis allowed the identification of the main emerging themes related to the use of social media by high-tech start-ups. Through this analysis, the relationships between key variables emerged, namely social media and the independent variable of improved engagement.

The results provided the empirical basis for developing a conceptual model representing how start-ups can leverage social media to maximize engagement and create value, while highlighting the factors that modulate and mediate those relationships.

In the literature the user engagement represent where the user participate in active way (O'Brien et al., 2008) and interact with a system or platform showing interest and attention to obtain benefits from digital experience (O'Brien et al., 2008).

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Therefore, the effectiveness of social media involvement in terms of engagement is evaluated differently depending on the development phase of the company: in the initial phases, qualitative metrics prevail (such as the type of interaction or the quality of the contacts generated), which reflect both the cognitive interest and the emotional involvement of users (Lee et al., 2017).

While in the more mature phases start-ups adopt more precise quantitative metrics, monitoring the number and type of connections, as well as participation levels.

SM, as widely discussed in the literature, are communication channels (Ventola and therapeutics, 2014) but for high-tech start-ups in the healthcare sector they take on a particularly important strategic role. The thematic analysis of the start-ups interviewed showed that the use of social media is not just a simple digital communication tool but acts as a catalyst to improve the involvement of stakeholders in the healthcare system during the life phase in which the startup finds itself.

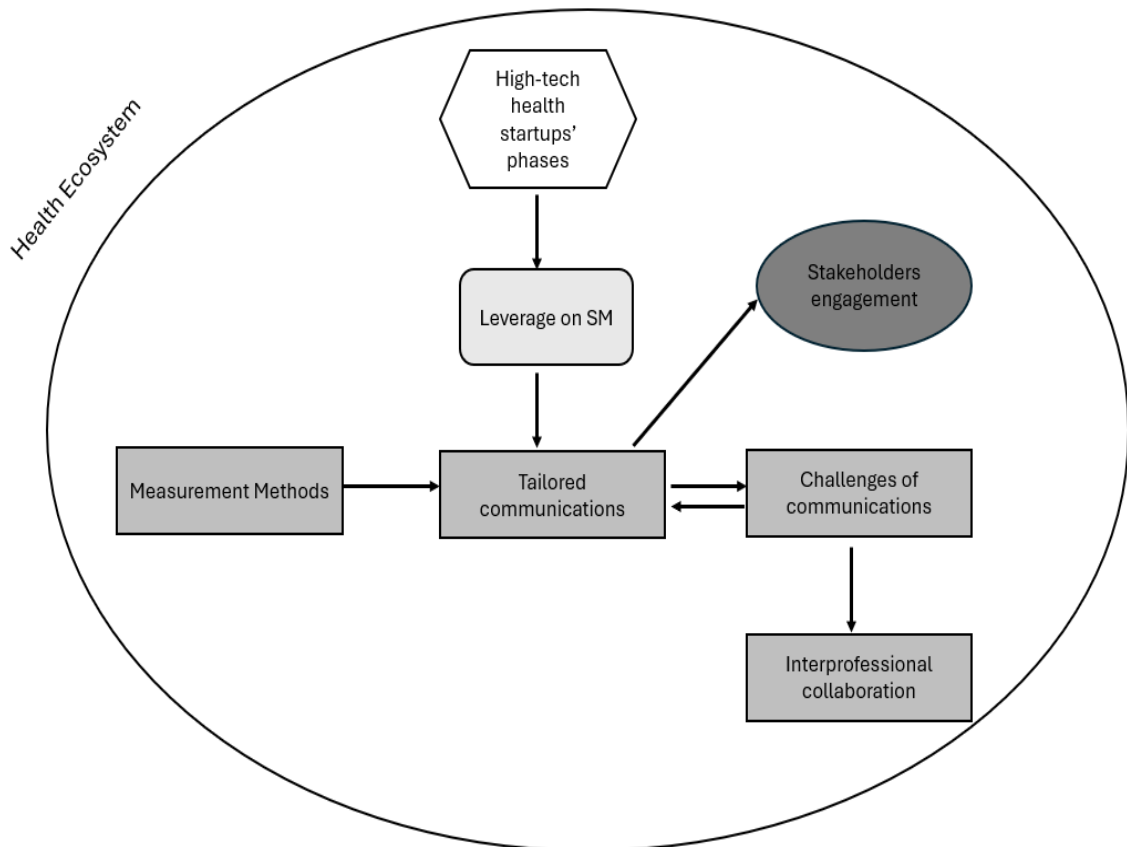
Its impact generates dynamic effects where variables come into play that can moderate and mediate their effect on engagement.

The empirical analysis allows the author to enable the development of a new conceptual framework (Figure 7) to map the potential impact of the use of SM for the high-tech start-up in the meso-ecosystem. The conceptual framework mette in relazione la variabile indipendente, l'uso dei social media, che influisce sulla variabile dipendente, che è rappresentata dallo stakeholder engagement.

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Figure 7: Conceptual framework



Source(s): Author elaboration

During the different phases of the start-up, there are variables that mediate and moderate the effect of using social media on stakeholder engagement of stakeholders. Personalized communication depends on the business model used by the start-up, which uses a different social media platform and has a different target audience; consequently, it must modify its communication accordingly. In personalizing one's communication, various challenges related to communication arise, which start-ups can mitigate and resolve through interdisciplinary collaboration between professionals.

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Personalized communication is measured periodically to assess its impact. In this way, it is seen as a strategy that enables the improvement of stakeholders. All this, overall, generates an improvement of stakeholders in the health area, strengthening the quality of communication, active participation, and value creation within the system, and considering that start-ups are highly vulnerable players, with a high level of failure, and therefore must advance quickly in their market (Shahzad et al., 2020a). This tool allows start-ups to gain a great advantage. The stakeholder have a different level of engagement for these reason the startups aim to develop strategies that foster greater engagement by building trust and perceived value for each stakeholder within a complex and highly regulated healthcare ecosystem.

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5. Conclusions

In this work it was analyzed the use of SM from the healthcare start up. It was conducted an explorative research through the multiple case study collected data from four professional workers team in the health high-start up.

The collected data were analyzed through the thematic analysis, and five final themes were obtained. These were the basis on which the conceptual framework was built. It emerged that social media acts as a catalyst and is not a simple technological marketing tool but is a factor that allows us to improve the relationships of the start ups with stakeholders in the healthcare sector. This is a very important aspect considering the complexity and fragility of high-tech start-ups for the constituent elements of the start-up itself and considering the complexity of the healthcare ecosystem in which they have to operate.

Based on the conceptual framework developed and given the exploratory nature of the topic, it was created a set of propositions to guide possible future studies. The results of the analysis highlight, in the meso and micro levels, the ability of SM to improve and strengthen stakeholder engagement. Following the analysis carried out, propositions deriving from the conceptual framework are reported:

P1: The strategic integration of social media into the business model reinforces the competitive advantage of high-tech start-ups.

The use of social media enables startups to enhance their value proposition through continuous user feedback, allowing them to dynamically evolve their offerings. This process of learning and continuous improvement contributes to strengthening the competitive position of startups on the market, increasing their ability to respond proactively to the needs and expectations of stakeholders.

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P2: Interdisciplinary collaboration among professionals allows for improving engagement with healthcare stakeholders.

In the use of social media, several challenges arise related to personalizing communication, depending on the business model and the platform used. These challenges can derail the purpose for which startups use this tool. To mitigate this risk, professionals in the sector must resort to interprofessional collaboration, which allows challenges to be transformed into an advantage to be leveraged.

P3: The strategic use of social media reduces the risk of failure of healthcare startups within their ecosystem.

Startups using social media strategically can reduce the possibility of failure in the market. As they make their identity clear and create a relationship of trust with their audience. This represents a tool that can improve the survival of start-ups. This research provides essential practical and theoretical insights.

5.1 Theoretical implications

This work provides theoretical contributions regarding the social media strategies and stakeholder engagement in healthcare field. In terms of theoretical implications, this study contributes to the academic debate on the role of social media platforms in high-tech startups' growth process. (Troise et al., 2022).

The theory highlights how social media can accelerate the process of the growth of a start-up. In addition to highlighting the opportunities available to startups when using social media for market access, this research reveals the main challenges and difficulties encountered by high-tech startups when adopting social media platforms to achieve their marketing goals, such as accessing markets

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and creating new relationships with customers and stakeholders. Indeed, although until now researchers have analyzed the phenomenon of digital platforms and, particularly, the interactions mediated by these platforms (Dwivedi et al., 2021; Steinhoff et al., 2019), still few studies have investigated the use of social media throughout the entire phase of the startup, focusing on the role of social media.

First, the results contribute to this research stream focusing on how startups adopt social media to increase their brand awareness and identity in national markets. The educational value that the startup wants to communicate to the patients represents a key strategy for increasing the brand awareness.

Second, the findings confirm that the use of these digital platforms enables startups to identify an effective positioning in the markets. In this regard, this study highlights that the use of social media by startups contributes to increasing the initial credibility of the company in new markets by reducing marketing costs and minimizing the risk of failure of the startup.

For example, gathering information on user feedback is crucial to positioning one's supply appropriately. In this vein, social media represent an opportunity to identify emerging trends and the expectations of new consumer generations, which are essential for positioning the startup.

Finally, the study advances the academic literature on marketing strategies by highlighting the potential of social media to create and facilitate valuable business relationships with key local stakeholders and partners.

Indeed, in line with the theoretical perspective of network development (Johanson and Vahlne, 2003), the results show that startups that lack pre-existing networks and sufficient resources can access established strategic networks using social media in the early stages of entry into the market. Specifically, scholars (e.g., Hammerschlag et al., 2020) revealed that social media enables the identification of potential customers interested in the product and service offered. Through the

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establishment of partnerships with local institutions, startups can access well-established international business networks via social media. Thus, social media supports and facilitates the inclusion of startups in strategic networks by establishing valuable relationships with investors, clients, and institutional organizations, which are particularly useful at the different stages of the entry market.

5.2 Managerial implications

This study provides managerial and policy implications, serving as a helpful guide for startup founders and professionals to understand the opportunities associated with the growth of startups that utilize social media. One significant problem is the lack of financial resources (Chen et al., 2017). Social media enables founders to optimize resource allocation and contain costs, thereby reducing the high failure rate of start-ups. In fact, for start-ups, SM provides cost-effective access to target markets (Vashishtha and Dhawan, 2023). SM is a channel to promote and sell products (Geho and Dangelo, 2012), but also serves as a means to connect with peers and foster collaboration (Taneja and Toombs, 2014).

In addition, the conceptual framework could be a valuable tool for mapping the critical stages of the step process with the factors and barriers that moderate the correct adoption of SM by health high-tech start-ups.

This research highlights the potential risks and difficulties associated with the mismanagement of social media platforms when the team lacks appropriate digital skills (Olivieri and Testa, 2024).

Firstly, startups should pay attention to their social media content because have to personalize the content of social media in relation to the needs of the target, in relation to the business model of the start, and the type of social media. For instance, if they want to be appreciated by the target market

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audience, whether it is an institution, a hospital, or patients, they have to personalize their communications. Therefore, if the stakeholders are institutional partners or hospitals, they must adapt to more formal and serious communication. When interacting with patients, they must apply descriptive communication because the SM has affected both marketing and innovation strategies (Kim et al., 2019).

Moreover, to consolidate the startup's awareness among stakeholders and improve the brand image, the social media content should emphasize the qualities of the product and or services offered and match the needs of the stakeholders.

By developing these communication skills, startups can enhance brand awareness and improve their brand image in the market.

Secondly, to effectively position startups' offerings in the market, professionals should acquire knowledge and skills to harness data available from social media, enabling them to understand the audience's needs and preferences.

Therefore, developing digital skills to handle big data and create highly engaging content for the target audience represents a challenge for startups (Gao et al., 2018), and creating collaboration among stakeholders is a skill. At the same time, it is essential to push toward interdisciplinary collaboration among health professionals. So in the marketing strategies, it is important to push toward interdisciplinary collaboration.

By redefining important audience information regarding preferences and needs, startups can benefit from a coherent and aligned positioning that resonates with local needs. Such positioning can resonate with the target when real benefits and advantages are perceived in the use of products and services offered, for example, including local influencers who are particularly appreciated and deemed authentic by the public.

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Finally, social media should be utilized in social media strategies to identify key stakeholders, such as partners, investors, institutions, and suppliers, to access local business networks (Caputo et al., 2022).

This thesis could provide a valuable tool to encourage policymakers to support the adoption of such technologies by establishing operational guidelines for their use. This could contribute to the development of more resilient use of these tools in start-up.

5.3 Limitations

Despite the relevant theoretical and practical implications, the study has several limitations that can be extensive. First, the research applied a qualitative methodology, and in the future can be applied the quantitative methodology to generalize the findings, providing a more comprehensive understanding of potential outcomes.

A limitation of this study concerns the partial completion of some questionnaires by the participating startups. In several cases, not all sections were filled in, as certain specific professional roles, such as Digital Marketer or Content Writer, were not present within the team. Furthermore, in some startups, the same individual completed multiple questionnaires corresponding to different roles, due to the absence of dedicated professionals.

This situation reflects the lean and flexible organizational structure that often characterizes healthcare startups; however, it also led to a partial overlap of responses and limited representativeness of certain functions, thereby reducing the possibility of systematic and fully comparable analyses across cases. Additionally, the study involved professionals from Italian healthcare startups only, which may limit the generalizability of the findings. Future research could benefit from conducting a cross-cultural

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analysis to explore how cultural factors influence startups' digital communication strategies and team composition across different national contexts.

Moreover, a future content analysis of the social media pages of the selected startups could help understand the content that is most successful with the audience. It was observed from the point of view of the team's workers, and in the future, it could be analyzed from the point of view of other stakeholders, such as patients, investors, and healthcare professionals.

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Borsa: DM 351/2022

Bibliography

- Aaker, D. A. 2012. *Building Strong Brands*, Simon & Schuster.
- Adongo, R., Kim, S. & Elliot, S. 2019. "Give And Take": A Social Exchange Perspective On Festival Stakeholder Relations. *Annals Of Tourism Research*, 75, 42-57.
- Ahmed, Z., Mohamed, K., Zeeshan, S. & Dong, X. 2020. Artificial Intelligence With Multi-Functional Machine Learning Platform Development For Better Healthcare And Precision Medicine. *Database*, 2020.
- Alalawi, A., Aljuaid, H., Natto, Z. S. J. P. P. & Adherence 2019. The Effect Of Social Media On The Choice Of Dental Patients: A Cross-Sectional Study In The City Of Jeddah, Saudi Arabia. 1685-1692.
- Alanzi, T. & Alsaeed, B. 2019. Use Of Social Media In The Blood Donation Process In Saudi Arabia. *Journal Of Blood Medicine*, 10, 417-423.
- Ali, A., Wang, H. & Khan, A. N. 2019. Mechanism To Enhance Team Creative Performance Through Social Media: A Transactive Memory System Approach. *Computers In Human Behavior*, 91, 115-126.
- Almotairy, B., Abdullah, M. & Abbasi, R. J. E. E. R. T. F. I. 2020. The Impact Of Social Media Adoption On Entrepreneurial Ecosystem. 4, 63-79.
- Alsharji, A., Ahmad, S. Z. & Abu Bakar, A. R. 2018. Understanding Social Media Adoption In Smes: Empirical Evidence From The United Arab Emirates. *Journal Of Entrepreneurship In Emerging Economies*, 10, 302-328.
- Andriopoulos, C. & Slater, S. 2013. Exploring The Landscape Of Qualitative Research In International Marketing: Two Decades Of Imr. *International Marketing Review*, 30, 384-412.
- Aria, M. & Cuccurullo, C. 2017. Bibliometrix: An R-Tool For Comprehensive Science Mapping Analysis. *Journal Of Informetrics*, 11, 959-975.
- Arias López, M. D. P., Ong, B. A., Borrat Frigola, X., Fernández, A. L., Hicklent, R. S., Obeles, A. J., Rocimo, A. M. & Celi, L. A. J. P. D. H. 2023. Digital Literacy As A New Determinant Of Health: A Scoping Review. 2, E0000279.
- Arnone, L. & Deprince, E. J. G. J. O. B. R. 2016. Small Firms Internationalization: Reducing The Psychic Distance Using Social Networks. 10, 55-63.

CUP: I61I22000100007

Borsa: DM 351/2022

- Arora, A., Bansal, S., Kandpal, C., Aswani, R. & Dwivedi, Y. 2019. Measuring Social Media Influencer Index- Insights From Facebook, Twitter And Instagram. *Journal Of Retailing And Consumer Services*, 49, 86-101.
- Atanassova, I. & Clark, L. J. J. O. C. B. 2015. Social Media Practices In Sme Marketing Activities: A Theoretical Framework And Research Agenda. 14, 163-183.
- Aula, P. 2010. Social Media, Reputation Risk And Ambient Publicity Management. *Strategy & Leadership*, 38, 43-49.
- Autio, E., Nambisan, S., Thomas, L. D. & Wright, M. J. S. E. J. 2018. Digital Affordances, Spatial Affordances, And The Genesis Of Entrepreneurial Ecosystems. 12, 72-95.
- Baima, G., Santoro, G., Pellicelli, A. C. & Mitreğa, M. 2022. Testing The Antecedents Of Customer Knowledge Sharing On Social Media: A Quantitative Analysis On Italian Consumers. *International Marketing Review*, 39, 682-705.
- Banerji, D. & Reimer, T. 2019. Startup Founders And Their Linkedin Connections: Are Well-Connected Entrepreneurs More Successful? *Computers In Human Behavior*, 90, 46-52.
- Bansal, P., Smith, W. K. & Vaara, E. J. A. O. M. J. 2018. New Ways Of Seeing Through Qualitative Research. Academy Of Management Briarcliff Manor, Ny.
- Barreto, J. E. & Whitehair, C. L. 2017. Social Media And Web Presence For Patients And Professionals: Evolving Trends And Implications For Practice. *Pm&R*, 9, S98-S105.
- Bashar, A., Ahmad, I., Wasiq, M. J. I. J. O. M., Financial Services & Research, M. 2012. Effectiveness Of Social Media As A Marketing Tool: An Empirical Study. 1, 88-99.
- Basri, W. S. & Siam, M. R. J. I. J. O. E. P. 2017. Maximizing The Social Media Potential For Small Businesses And Startups: A Conceptual Study. 11, 241-245.
- Beaulieu, M. & Lehoux, P. 2019. The Emergence Of Health Technology Organizations Among Institutional Healthcare And Economic Actors. *International Entrepreneurship And Management Journal*, 15, 1115-1151.
- Behboudi, M., Vazifehdoust, H., Najafi, K. & Najafi, M. 2014. Using Rational And Emotional Appeals In Online Advertisements For Muslim Customers. *Journal Of Islamic Marketing*, 5, 97-124.
- Bloor, M. & Wood, F. 2006. Keywords In Qualitative Methods: A Vocabulary Of Research Concepts.
- Braun, V. & Clarke, V. 2006. Using Thematic Analysis In Psychology. *Qualitative Research In Psychology*, 3, 77-101.

CUP: I61I22000100007

Borsa: DM 351/2022

- Braun, V. & Clarke, V. 2012. Thematic Analysis. American Psychological Association.
- Bresciani, S. & Eppler, M. J. 2010. Brand New Ventures? Insights On Start-Ups' Branding Practices. *Journal Of Product & Brand Management*, 19, 356-366.
- Bruce, P. & Shelley, R. J. C. J. O. N. Z. 2010. Assessing Stakeholder Engagement. 11, 30-48.
- Burnes, B. & Choi, H. 2015. Future Cities And Self-Organising Value Chains: The Case Of The Independent Music Community In Seoul. *Supply Chain Management: An International Journal*, 20, 300-312.
- Buzeta, C., De Pelsmacker, P. & Dens, N. 2020. Motivations To Use Different Social Media Types And Their Impact On Consumers' Online Brand-Related Activities (Cobras). 52, 79-98.
- Cairns, G., De Andrade, M. & Macdonald, L. J. J. O. H. C. 2013. Reputation, Relationships, Risk Communication, And The Role Of Trust In The Prevention And Control Of Communicable Disease: A Review. 18, 1550-1565.
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D. & Walker, K. 2020. Purposive Sampling: Complex Or Simple? Research Case Examples. 25, 652-661.
- Caputo, F., Fiano, F., Riso, T., Romano, M. & Maalaoui, A. 2022. Digital Platforms And International Performance Of Italian Smes: An Exploitation-Based Overview. *International Marketing Review*, 39, 568-585.
- Caputo, F., Scuotto, V., Carayannis, E. & Cillo, V. 2018. Intertwining The Internet Of Things And Consumers' Behaviour Science: Future Promises For Businesses. *Technological Forecasting And Social Change*, 136, 277-284.
- Chaet, D., Clearfield, R., Sabin, J. E., Skimming, K., On Behalf Of The Council On, E. & Judicial Affairs American Medical, A. 2017. Ethical Practice In Telehealth And Telemedicine. *Journal Of General Internal Medicine*, 32, 1136-1140.
- Chakraborty, I., Ilavarasan, P. V. & Edirippulige, S. 2023. Critical Success Factors Of Startups In The E-Health Domain. *Health Policy And Technology*, 12, 100773.
- Chammassian, R. G. & Sabatier, V. 2020. The Role Of Costs In Business Model Design For Early-Stage Technology Startups. *Technological Forecasting And Social Change*, 157, 120090.
- Charmaz, K. 2017. Constructivist Grounded Theory. *The Journal Of Positive Psychology*, 12, 299-300.

CUP: I61I22000100007

Borsa: DM 351/2022

- Chen, Z. F., Ji, Y. G. & Men, L. R. 2017. Strategic Use Of Social Media For Stakeholder Engagement In Startup Companies In China. *International Journal Of Strategic Communication*, 11, 244-267.
- Cho, M., Schweickart, T. & Haase, A. 2014. Public Engagement With Nonprofit Organizations On Facebook. *Public Relations Review*, 40, 565-567.
- Chung, S., Animesh, A., Han, K. & Pinsonneault, A. J. I. S. R. 2020. Financial Returns To Firms' Communication Actions On Firm-Initiated Social Media: Evidence From Facebook Business Pages. 31, 258-285.
- Creswell, J. W. & Poth, C. N. 2016. *Qualitative Inquiry And Research Design: Choosing Among Five Approaches*, Sage Publications.
- Cucari, N. & Franzese, M. 2024. *Essere Startupper. Il Primo Manuale Diffuso Sulle Startup*, Mcgraw-Hill Education (Italy) Srl.
- Currie, M., Philip, L. J. & Roberts, A. 2015. Attitudes Towards The Use And Acceptance Of Ehealth Technologies: A Case Study Of Older Adults Living With Chronic Pain And Implications For Rural Healthcare. *Bmc Health Services Research*, 15, 162.
- Ćwiklicki, M. & Pilch, K. 2021. Multiple Case Study Design: The Example Of Place Marketing Research. *Place Branding And Public Diplomacy*, 17, 50-62.
- Czakon, W., Mania, K., Jedynek, M., Kuźniarska, A., Choiński, M. & Dabić, M. 2024. Who Are We? Analyzing The Digital Identities Of Organizations Through The Lens Of Micro-Interactions On Social Media. *Technological Forecasting And Social Change*, 198, 123012.
- Dąbrowska, J., Almpantopoulou, A., Brem, A., Chesbrough, H., Cucino, V., Di Minin, A., Giones, F., Hakala, H., Marullo, C., Mention, A. L. J. R. & Management, D. 2022. Digital Transformation, For Better Or Worse: A Critical Multi-Level Research Agenda. 52, 930-954.
- Dasgupta, A. 2023. Intrusion Of Technology Ushering A New Concept From The Perspective Of Promoting Patient-Centered-Care.
- Dawson, V. R. 2018. Fans, Friends, Advocates, Ambassadors, And Haters: Social Media Communities And The Communicative Constitution Of Organizational Identity. *Social Media + Society*, 4, 2056305117746356.
- Del Giudice, M., Caputo, F. & Evangelista, F. 2016. How Are Decision Systems Changing? The Contribution Of Social Media To The Management Of Decisional Liquefaction. *Journal Of Decision Systems*, 25, 214-226.

CUP: I61I22000100007

Borsa: DM 351/2022

- Devin, B. L. & Lane, A. B. 2014. Communicating Engagement In Corporate Social Responsibility: A Meta-Level Construal Of Engagement. *Journal Of Public Relations Research*, 26, 436-454.
- Dizon, D. S., Graham, D., Thompson, M. A., Johnson, L. J., Johnston, C., Fisch, M. J. & Miller, R. 2012. Practical Guidance: The Use Of Social Media In Oncology Practice. 8, E114-E124.
- Dorfman, R. G., Mahmood, E., Ren, A., Turin, S. Y., Vaca, E. E., Fine, N. A. & Schierle, C. F. 2018. Google Ranking Of Plastic Surgeons Values Social Media Presence Over Academic Pedigree And Experience. *Aesthetic Surgery Journal*, 39, 447-451.
- Dressler, M. & Paunovic, I. 2021. Sensing Technologies, Roles And Technology Adoption Strategies For Digital Transformation Of Grape Harvesting In Sme Wineries. *Journal Of Open Innovation: Technology, Market, And Complexity*, 7, 123.
- Eggers, F., Risselada, H., Niemand, T. & Robledo, S. 2022. Referral Campaigns For Software Startups: The Impact Of Network Characteristics On Product Adoption. *Journal Of Business Research*, 145, 309-324.
- Eisenhardt, K. M. & Graebner, M. E. J. A. O. M. J. 2007. Theory Building From Cases: Opportunities And Challenges. 50, 25-32.
- Eisenhardt, K. M. J. A. O. M. R. 1989. Building Theories From Case Study Research. 14, 532-550.
- Elton, J. & O'riordan, A. 2016. *Healthcare Disrupted: Next Generation Business Models And Strategies*, John Wiley & Sons.
- Farsi, D., Martinez-Menchaca, H. R., Ahmed, M. & Farsi, N. J. J. O. M. I. R. 2022. Social Media And Health Care (Part Ii): Narrative Review Of Social Media Use By Patients. 24, E30379.
- Fischer, E. & Rebecca Reuber, A. 2014. Online Entrepreneurial Communication: Mitigating Uncertainty And Increasing Differentiation Via Twitter. *Journal Of Business Venturing*, 29, 565-583.
- Fischer, E. & Reuber, A. R. 2011. Social Interaction Via New Social Media: (How) Can Interactions On Twitter Affect Effectual Thinking And Behavior? *Journal Of Business Venturing*, 26, 1-18.
- Fletcher, G. & Griffiths, M. 2020. Digital Transformation During A Lockdown. *International Journal Of Information Management*, 55, 102185.
- Fraccastoro, S., Gabrielsson, M. & Chetty, S. 2021. Social Media Firm Specific Advantages As Enablers Of Network Embeddedness Of International Entrepreneurial Ventures. *Journal Of World Business*, 56, 101164.

CUP: I61I22000100007

Borsa: DM 351/2022

- Fürstenau, D., Klein, S., Vogel, A. & Auschra, C. 2021. Multi-Sided Platform And Data-Driven Care Research. *Electronic Markets*, 31, 811-828.
- Gao, H., Tate, M., Zhang, H., Chen, S. & Liang, B. 2018. Social Media Ties Strategy In International Branding: An Application Of Resource-Based Theory. 26, 45-69.
- Gartner, W. B. J. A. O. M. R. 1985. A Conceptual Framework For Describing The Phenomenon Of New Venture Creation. 10, 696-706.
- Geho, P. R. & Dangelo, J. J. T. E. E. 2012. The Evolution Of Social Media As A Marketing Tool For Entrepreneurs. 17, 61.
- Geliskhanov Islam, Z., Yudina Tamara, N. & Babkin Alexander, V. J. II.-E. 2018. Digital Platforms In Economics: Essence, Models, Development Trends. 74, 22-36.
- George, D. R., Rovniak, L. S. & Kraschnewski, J. L. 2013. Dangers And Opportunities For Social Media In Medicine. *Clinical Obstetrics And Gynecology*, 56.
- Georgescu, M. & Popescul, D. 2015. Social Media – The New Paradigm Of Collaboration And Communication For Business Environment. *Procedia Economics And Finance*, 20, 277-282.
- Ghezzi, A., Gastaldi, L., Lettieri, E., Martini, A. & Corso, M. 2016. A Role For Startups In Unleashing The Disruptive Power Of Social Media. *International Journal Of Information Management*, 36, 1152-1159.
- Ghose, A. & Han, S. P. J. M. S. 2011. An Empirical Analysis Of User Content Generation And Usage Behavior On The Mobile Internet. 57, 1671-1691.
- Gloor, P. A., Colladon, A. F., Grippa, F., Hadley, B. M., Woerner, S. J. T. F. & Change, S. 2020. The Impact Of Social Media Presence And Board Member Composition On New Venture Success: Evidences From Vc-Backed Us Startups. 157, 120098.
- Osservatori Digital Health, Politecnico Di Milano, 2023.
https://lp.startupblink.com/report/?utm_source=Dashboards&utm_medium=Herobutton&utm_campaign=Indexreport Revised 08/07/2025
- Gouldner, A. W. 1960. The Norm Of Reciprocity: A Preliminary Statement. *American Sociological Review*, 25, 161-178.
- Grabowska, S., Ślugocki, W. & Saniuk, A. J. Z. N. O. I. Z. P. Ś. 2024. Industry 5.0-Directions Of Business Action And Knowledge Of Technology In The Context Of Surveys Of Employees Of Manufacturing Companies.

CUP: I61I22000100007

Borsa: DM 351/2022

- Gratell, P. & Dahlin, C. J. 2018. How Does Social Media Affect Entrepreneurial Leadership: A Qualitative Study On Entrepreneur's Perceptions Regarding Social Media As A Tool For Entrepreneurial Leadership.
- Gruber, D. A., Smerek, R. E., Thomas-Hunt, M. C. & James, E. H. 2015. The Real-Time Power Of Twitter: Crisis Management And Leadership In An Age Of Social Media. *Business Horizons*, 58, 163-172.
- Gustafsson, J. 2017. Single Case Studies Vs. Multiple Case Studies: A Comparative Study.
- Hallen, B. L., Cohen, S. L. & Bingham, C. B. J. O. S. 2020. Do Accelerators Work? If So, How? 31, 378-414.
- Hennig-Thurau, T., Wiertz, C. & Feldhaus, F. 2015. Does Twitter Matter? The Impact Of Microblogging Word Of Mouth On Consumers' Adoption Of New Movies. *Journal Of The Academy Of Marketing Science*, 43, 375-394.
- Holton, G. J. S. 1975. On The Role Of Themata In Scientific Thought. 188, 328-334.
- Iyanna, S., Kaur, P., Ractham, P., Talwar, S. & Najmul Islam, A. K. M. 2022. Digital Transformation Of Healthcare Sector. What Is Impeding Adoption And Continued Usage Of Technology-Driven Innovations By End-Users? *Journal Of Business Research*, 153, 150-161.
- Jaakonmäki, R., Müller, O. & Vom Brocke, J. The Impact Of Content, Context, And Creator On User Engagement In Social Media Marketing. Proceedings Of The Annual Hawaii International Conference On System Sciences, 2017. Ieee Computer Society Press, 1152-1160.
- Jain, A. V. & Bickham, D. 2014. Adolescent Health Literacy And The Internet: Challenges And Opportunities. 26, 435-439.
- Jha, A. K. & Verma, N. K. 2024. Social Media Platforms And User Engagement: A Multi-Platform Study On One-Way Firm Sustainability Communication. *Information Systems Frontiers*, 26, 177-194.
- Ji, Y. G., Li, C., North, M. & Liu, J. 2017. Staking Reputation On Stakeholders: How Does Stakeholders' Facebook Engagement Help Or Ruin A Company's Reputation? *Public Relations Review*, 43, 201-210.
- Jin, F., Wu, A. & Hitt, L. Social Is The New Financial: How Startup Social Media Activity Influences Funding Outcomes. Academy Of Management Proceedings, 2017. Academy Of Management Briarcliff Manor, Ny 10510, 13329.

CUP: I61I22000100007

Borsa: DM 351/2022

- Joffe, H. J. Q. R. M. I. M. H., Students, P. A. G. F. & Practitioners 2011. Thematic Analysis. 209-223.
- Jordan, K. J. F. I. D. H. 2019. From Social Networks To Publishing Platforms: A Review Of The History And Scholarship Of Academic Social Network Sites. 6, 5.
- Kaplan, A. M. & Haenlein, M. 2010. Users Of The World, Unite! The Challenges And Opportunities Of Social Media. *Business Horizons*, 53, 59-68.
- Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K. & Nerur, S. 2018. Advances In Social Media Research: Past, Present And Future. *Information Systems Frontiers*, 20, 531-558.
- Katsikeas, C., Leonidou, L. & Zeriti, A. 2019. Revisiting International Marketing Strategy In A Digital Era: Opportunities, Challenges, And Research Directions. *International Marketing Review*, 37, 405-424.
- Keller, K. L. J. J. O. M. 1993. Conceptualizing, Measuring, And Managing Customer-Based Brand Equity. 57, 1-22.
- Kent, M. L., Taylor, M. & White, W. J. 2003. The Relationship Between Web Site Design And Organizational Responsiveness To Stakeholders. *Public Relations Review*, 29, 63-77.
- Khan, H., Arslan, A., Haapanen, L., Rodgers, P. & Tarba, S. Y. 2023. Hybrid Market Offering In The Medical Technology Sector And The Role Of Network Configuration: An Exploratory Assessment In Both Developed And Emerging Markets. *International Marketing Review*, 40, 612-635.
- Khan, N. A., Khan, A. N. & Moin, M. F. 2021. Self-Regulation And Social Media Addiction: A Multi-Wave Data Analysis In China. *Technology In Society*, 64, 101527.
- Khan, S. N. J. A. S. S. 2014. Qualitative Research Method-Phenomenology. 10, 298.
- Khan, Z. F. & Alotaibi, S. R. J. J. O. H. E. 2020. Applications Of Artificial Intelligence And Big Data Analytics In M-Health: A Healthcare System Perspective. 2020, 8894694.
- Kim, J., Choi, H. J. J. O. B. E. & Management 2019. Value Co-Creation Through Social Media: A Case Study Of A Start-Up Company. 20, 1-19.
- Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N. & Weinmann, A. 2022. Digital Transformation In Business And Management Research: An Overview Of The Current Status Quo. *International Journal Of Information Management*, 63, 102466.

CUP: I61I22000100007

Borsa: DM 351/2022

- Kraus, S., Schiavone, F., Pluzhnikova, A. & Invernizzi, A. C. 2021. Digital Transformation In Healthcare: Analyzing The Current State-Of-Research. *Journal Of Business Research*, 123, 557-567.
- Kurpayanidi, K. & Abdullaev, A. Covid-19 Pandemic In Central Asia: Policy And Environmental Implications And Responses For Smes Support In Uzbekistan. *E3s Web Of Conferences*, 2021. Edp Sciences, 05027.
- Lafferty, N. T. & Manca, A. J. S. M. I. M. 2018. Perspectives On Social Media In And As Research: A Synthetic Review. 3-14.
- Lai, W.-H. & Lin, C.-C. J. J. O. B. R. 2015. Constructing Business Incubation Service Capabilities For Tenants At Post-Entrepreneurial Phase. 68, 2285-2289.
- Lamberton, C. & Stephen, A. T. 2016. A Thematic Exploration Of Digital, Social Media, And Mobile Marketing: Research Evolution From 2000 To 2015 And An Agenda For Future Inquiry. 80, 146-172.
- Laskey, H. A., Day, E. & Crask, M. R. 1989. Typology Of Main Message Strategies For Television Commercials. *Journal Of Advertising*, 18, 36-41.
- Lee, M., Lee, M. & Kim, J. J. A. A. O. M. J. 2017. A Dynamic Approach To The Start-Up Business Ecosystem: A Cross-Comparison Of Korea, China, And Japan. 22, 157-184.
- Li, F., Larimo, J. & Leonidou, L. C. 2021. Social Media Marketing Strategy: Definition, Conceptualization, Taxonomy, Validation, And Future Agenda. *Journal Of The Academy Of Marketing Science*, 49, 51-70.
- Li, L., Su, F., Zhang, W. & Mao, J. Y. J. I. S. J. 2018. Digital Transformation By Sme Entrepreneurs: A Capability Perspective. 28, 1129-1157.
- Lim, W. M., Kumar, S., Pandey, N., Rasul, T. & Gaur, V. 2023. From Direct Marketing To Interactive Marketing: A Retrospective Review Of The Journal Of Research In Interactive Marketing. *Journal Of Research In Interactive Marketing*, 17, 232-256.
- Lim, W. M., Yap, S.-F. & Makkar, M. 2021. Home Sharing In Marketing And Tourism At A Tipping Point: What Do We Know, How Do We Know, And Where Should We Be Heading? *Journal Of Business Research*, 122, 534-566.
- Liu, Y. 2017. Born Global Firms' Growth And Collaborative Entry Mode: The Role Of Transnational Entrepreneurs. *International Marketing Review*, 34, 46-67.

CUP: I61I22000100007

Borsa: DM 351/2022

- Lo, S., Tran, M.-L., Chen, P.-F. & Vo Thai, H. C. 2025. Personal Determinants Of Early-Stage Strategic Entrepreneurship: An Empirical Comparison Of Vietnam And Taiwan. *International Journal Of Emerging Markets*, 20, 2339-2363.
- Lovejoy, K. & Saxton, G. D. 2012. Information, Community, And Action: How Nonprofit Organizations Use Social Media*. *Journal Of Computer-Mediated Communication*, 17, 337-353.
- Lusch, R. F. & Nambisan, S. 2015. Service Innovation
A Service-Dominant Logic Perspective. *Mis Quarterly*, 39, 155-176.
- Mahmoud, M. A., Adams, M., Abubakari, A., Commey, N. O. & Kastner, A. N. A. 2020. Social Media Resources And Export Performance: The Role Of Trust And Commitment. *International Marketing Review*, 37, 273-297.
- Marcus, A., Malen, J., Ellis, S. J. O. & Environment 2013. The Promise And Pitfalls Of Venture Capital As An Asset Class For Clean Energy Investment: Research Questions For Organization And Natural Environment Scholars. 26, 31-60.
- Marques, I. C. P. & Ferreira, J. J. M. 2020. Digital Transformation In The Area Of Health: Systematic Review Of 45 Years Of Evolution. *Health And Technology*, 10, 575-586.
- Matarazzo, M., Penco, L. & Profumo, G. J. S. I. J. O. M. 2020. How Is Digital Transformation Changing Business Models And Internationalisation In Made In Italy Smes? 38, 89-107.
- Melegati, J., Chanin, R., Wang, X., Sales, A. & Prikladnicki, R. Enablers And Inhibitors Of Experimentation In Early-Stage Software Startups. *International Conference On Product-Focused Software Process Improvement*, 2019. Springer, 554-569.
- Men, L. R. & Tsai, W.-H. S. 2012. How Companies Cultivate Relationships With Publics On Social Network Sites: Evidence From China And The United States. *Public Relations Review*, 38, 723-730.
- Men, L. R. & Tsai, W.-H. S. 2016. Gearing Toward Excellence In Corporate Social Media Communications: Understanding The Why And How Of Public Engagement. *Public Relations And Participatory Culture*. Routledge.
- Menear, M., Blanchette, M.-A., Demers-Payette, O. & Roy, D. 2019. A Framework For Value-Creating Learning Health Systems. *Health Research Policy And Systems*, 17, 79.

CUP: I61I22000100007

Borsa: DM 351/2022

- Monaghan, S., Tippmann, E. & Coviello, N. 2020. Born Digitals: Thoughts On Their Internationalization And A Research Agenda. *Journal Of International Business Studies*, 51, 11-22.
- Montgomery, B. L. J. F. I. D. H. 2018. Building And Sustaining Diverse Functioning Networks Using Social Media And Digital Platforms To Improve Diversity And Inclusivity. 5, 22.
- Mora Cortez, R., Johnston, W. J. & Ghosh Dastidar, A. 2023. Managing The Content Of LinkedIn Posts: Influence On B2b Customer Engagement And Sales? *Journal Of Business Research*, 155, 113388.
- Muhos, M., Saarela, M., Foit Jr, D., Rasochova, L. J. I. E. & Journal, M. 2019. Management Priorities Of Digital Health Service Start-Ups In California. 15, 43-62.
- Mujahid, M. S. & Mubarik, M. S. 2021a. The Bright Side Of Social Media: Social Media Platforms Adoption And Start-Up Sustainability. Volume 12 - 2021.
- Mujahid, M. S. & Mubarik, M. S. J. F. I. P. 2021b. The Bright Side Of Social Media: Social Media Platforms Adoption And Start-Up Sustainability. 12, 661649.
- Müller, J. M., Buliga, O. & Voigt, K.-I. 2018. Fortune Favors The Prepared: How Smes Approach Business Model Innovations In Industry 4.0. *Technological Forecasting And Social Change*, 132, 2-17.
- Mundottukandi, M. S., Jusoh, Y. Y., Pa, N. C., Nor, R. N. B. H. & Bukar, U. A. 2024. Prioritizing Factors In Social Media Crisis Communication For Resilience Enhancement Using Analytical Hierarchy Process. *Ieee Access*, 12, 54798-54815.
- Muntinga, D. G., Moorman, M. & Smit, E. G. 2011. Introducing Cobras. *International Journal Of Advertising*, 30, 13-46.
- O'brien, H. L., Toms, E. G. J. J. O. T. A. S. F. I. S. & Technology 2008. What Is User Engagement? A Conceptual Framework For Defining User Engagement With Technology. 59, 938-955.
- Oh, C., Roumani, Y., Nwankpa, J. K. & Hu, H.-F. 2017. Beyond Likes And Tweets: Consumer Engagement Behavior And Movie Box Office In Social Media. *Information & Management*, 54, 25-37.
- Olanrewaju, A.-S. T., Hossain, M. A., Whiteside, N. & Mercieca, P. 2020. Social Media And Entrepreneurship Research: A Literature Review. *International Journal Of Information Management*, 50, 90-110.

CUP: I61I22000100007

Borsa: DM 351/2022

- Olivieri, M. & Testa, G. 2024. Social Media Platforms Use In Startups' International Marketing Strategies: A Multiple Case Study. *International Marketing Review*, 41, 1074-1101.
- Organ, D. W. J. R. I. O. B. 1990. The Motivational Basis Of Organizational Citizenship Behavior. 12, 43-72.
- Osservatori Digital Health, Politecnico Di Milano, 2023 <https://Startupitalia.eu/Startup/Life-Sciences-Pmi-E-Startup-Innovative/> Revised 08- 09- 2025
- Park, E. K., Martins, R. M., Hain, D. & Jurowetzki, R. Entrepreneurial Ecosystem For Technology Start-Ups In Nairobi: Empirical Analysis Of Twitter Networks Of Start-Ups And Support Organizations. *Druid*, 2017.
- Passaro, R., Quinto, I., Rippa, P. & Thomas, A. J. S. 2020. Evolution Of Collaborative Networks Supporting Startup Sustainability: Evidences From Digital Firms. 12, 9437.
- Pellegrini, G. & Lovati, C. J. F. I. P. H. 2025. Stakeholders' Engagement For Improved Health Outcomes: A Research Brief To Design A Tool For Better Communication And Participation. 13, 1536753.
- Petrù, N., Pavlák, M. & Polák, J. J. I. M. 2019. Factors Impacting Startup Sustainability In The Czech Republic. 15, 1.
- Phua, J., Jin, S. V. & Kim, J. 2017. Uses And Gratifications Of Social Networking Sites For Bridging And Bonding Social Capital: A Comparison Of Facebook, Twitter, Instagram, And Snapchat. *Computers In Human Behavior*, 72, 115-122.
- Pitafi, A. H., Kanwal, S., Ali, A., Khan, A. N. & Waqas Ameen, M. 2018. Moderating Roles Of It Competency And Work Cooperation On Employee Work Performance In An Esm Environment. *Technology In Society*, 55, 199-208.
- Pitafi, A. H., Khan, A. N., Khan, N. A. & Ren, M. 2020. Using Enterprise Social Media To Investigate The Effect Of Workplace Conflict On Employee Creativity. *Telematics And Informatics*, 55, 101451.
- Pranckutė, R. 2021. Web Of Science (Wos) And Scopus: The Titans Of Bibliographic Information In Today's Academic World. 9, 12.
- Rangaswamy, A., Moch, N., Felten, C., Van Bruggen, G., Wieringa, J. E. & Wirtz, J. J. J. O. I. M. 2020. The Role Of Marketing In Digital Business Platforms. 51, 72-90.

CUP: I61I22000100007

Borsa: DM 351/2022

- Raza, M. Y., Khan, A. N., Khan, N. A., Ali, A. & Bano, S. J. J. O. P. A. 2020. Dark Side Of Social Media And Academic Performance Of Public Sector Schools Students: Role Of Parental School Support. 20, E2058.
- Riverola, C., Dedehayir, O. & Miralles, F. 2022. A Taxonomy Of Social-Network-Utilization Strategies For Emerging High-Technology Firms. 14, 6961.
- Robson, S. & Banerjee, S. 2022. Brand Post Popularity On Facebook, Twitter, Instagram And LinkedIn: The Case Of Start-Ups. *Online Information Review*, 47, 486-504.
- Romney, A. K., Weller, S. C. & Batchelder, W. H. J. A. A. 1986. Culture As Consensus: A Theory Of Culture And Informant Accuracy. 88, 313-338.
- Ropuszyńska-Surma, E., Węglarz, M. & Kubiński, P. J. E.-W. E. R. 2022. The Role Of Networking In Building A Start-Up Business Model. 28, 71-90.
- Rossiter, J. R. 2014. 'Branding' Explained: Defining And Measuring Brand Awareness And Brand Attitude. *Journal Of Brand Management*, 21, 533-540.
- Rus, M., Konecnik Ruzzier, M. & Ruzzier, M. J. M. G. T. 2018. Startup Branding: Empirical Evidence Among Slovenian Startups. 16, 79-94.
- Saari, M., Haapanen, L. & Hurmelinna-Laukkanen, P. 2022. Social Media And International Business: Views And Conceptual Framing. *International Marketing Review*, 39, 25-45.
- Salamzadeh, A., Kawamorita Kesim, H. J. J. O. E. C. P. & Economy, P. I. T. G. 2017. The Enterprising Communities And Startup Ecosystem In Iran. 11, 456-479.
- Saxton, G. D. & Waters, R. D. 2014. What Do Stakeholders Like On Facebook? Examining Public Reactions To Nonprofit Organizations' Informational, Promotional, And Community-Building Messages. *Journal Of Public Relations Research*, 26, 280-299.
- Schjoedt, L., Brännback, M. E. & Carsrud, A. L. 2020. Social Media In An Entrepreneurship Context. *Understanding Social Media And Entrepreneurship: The Business Of Hashtags, Likes, Tweets And Stories*. Springer.
- Scuotto, V., Del Giudice, M., Peruta, M. R. D. & Tarba, S. 2017. The Performance Implications Of Leveraging Internal Innovation Through Social Media Networks: An Empirical Verification Of The Smart Fashion Industry. *Technological Forecasting And Social Change*, 120, 184-194.

CUP: I61I22000100007

Borsa: DM 351/2022

- Shahzad, M., Qu, Y., Zafar, A. U., Rehman, S. U. & Islam, T. 2020a. Exploring The Influence Of Knowledge Management Process On Corporate Sustainable Performance Through Green Innovation. *Journal Of Knowledge Management*, 24, 2079-2106.
- Shahzad, M., Qu, Y., Zafar, A. U., Rehman, S. U. & Islam, T. J. J. O. K. M. 2020b. Exploring The Influence Of Knowledge Management Process On Corporate Sustainable Performance Through Green Innovation. 24, 2079-2106.
- Sharma, V. & Bharathi, V. J. A. A. S. 2013. Social Media For Start-Ups-An Effective Marketing Tool.
- Sheth, J. N. 2020. Borderless Media: Rethinking International Marketing. 28, 3-12.
- Shriver, S. K., Nair, H. S. & Hofstetter, R. J. M. S. 2013. Social Ties And User-Generated Content: Evidence From An Online Social Network. 59, 1425-1443.
- Silva, D. S. D., Cerqueira, A. & Brandão, E. 2016. Portuguese Startups: A Success Prediction Model. Universidade Do Porto, Faculdade De Economia Do Porto.
- Singh, N., Benmamoun, M., Meyr, E. & Arikan, R. H. 2021. Verifying Rigor: Analyzing Qualitative Research In International Marketing. *International Marketing Review*, 38, 1289-1307.
- Spigel, B. 2017. The Relational Organization Of Entrepreneurial Ecosystems. 41, 49-72.
- Steinhoff, L., Arli, D., Weaven, S. & Kozlenkova, I. V. 2019. Online Relationship Marketing. *Journal Of The Academy Of Marketing Science*, 47, 369-393.
- Stellefson, M., Paige, S. R., Chaney, B. H. & Chaney, J. D. 2020. Evolving Role Of Social Media In Health Promotion: Updated Responsibilities For Health Education Specialists. 17, 1153.
- Stieglitz, S. & Dang-Xuan, L. 2013. Social Media And Political Communication: A Social Media Analytics Framework. *Social Network Analysis And Mining*, 3, 1277-1291.
- Start Up 2025, <https://Startupitalia.Eu/Startup/Life-Sciences-Pmi-E-Startup-Innovative/> Revised In 20 09 2025.
- Taneja, S. & Toombs, L. J. A. O. M. S. J. 2014. Putting A Face On Small Businesses: Visibility, Viability, And Sustainability The Impact Of Social Media On Small Business Marketing. 18, 249.
- Tata, A., Martinez, D. L., Garcia, D., Oesch, A. & Brusoni, S. 2017. The Psycholinguistics Of Entrepreneurship. *Journal Of Business Venturing Insights*, 7, 38-44.

CUP: I61I22000100007

Borsa: DM 351/2022

- Timmers, T., Janssen, L., Kool, R. B. & Kremer, J. A. J. J. O. M. I. R. 2020. Educating Patients By Providing Timely Information Using Smartphone And Tablet Apps: Systematic Review. 22, E17342.
- Troise, C., Dana, L. P., Tani, M. & Lee, K. Y. 2021. Social Media And Entrepreneurship: Exploring The Impact Of Social Media Use Of Start-Ups On Their Entrepreneurial Orientation And Opportunities. *Journal Of Small Business And Enterprise Development*, 29, 47-73.
- Tsai, W.-H. S. & Men, L. R. 2013. Motivations And Antecedents Of Consumer Engagement With Brand Pages On Social Networking Sites. *Journal Of Interactive Advertising*, 13, 76-87.
- Tuten, T. L. 2023. Social Media Marketing.
- Ugalmugle S., Swain R. Digital Health Market Share Trends 2020-2026 Growth Report 2020. <https://www.gminsights.com/industry-analysis/digital-health-market> (Accessed August 21, 2025).
- Vashishtha, E. & Dhawan, G. 2023. Fmdb Transactions On Sustainable Management Letters.
- Vaterlaus, J. M., Barnett, K., Roche, C. & Young, J. A. 2016. "Snapchat Is More Personal": An Exploratory Study On Snapchat Behaviors And Young Adult Interpersonal Relationships. *Computers In Human Behavior*, 62, 594-601.
- Veit, D., Clemons, E., Benlian, A., Buxmann, P., Hess, T., Kundisch, D., Leimeister, J. M., Loos, P. & Spann, M. 2014. Business Models. *Business & Information Systems Engineering*, 6, 45-53.
- Veldeman, C., Van Praet, E. & Mechant, P. 2017. Social Media Adoption In Business-To-Business: It And Industrial Companies Compared. 54, 283-305.
- Ventola, C. L. 2014. Social Media And Health Care Professionals: Benefits, Risks, And Best Practices. *P T*, 39, 491-520.
- Ventola, C. L. J. P. & Therapeutics 2014. Social Media And Health Care Professionals: Benefits, Risks, And Best Practices. 39, 491.
- Vial, G. J. M. D. T. 2021. Understanding Digital Transformation: A Review And A Research Agenda. 13-66.
- Waters, R. D., Burnett, E., Lamm, A. & Lucas, J. 2009. Engaging Stakeholders Through Social Networking: How Nonprofit Organizations Are Using Facebook. *Public Relations Review*, 35, 102-106.

CUP: I61I22000100007

Borsa: DM 351/2022

- Wei, L. H., Huat, O. C. & Thurasamy, R. 2023. The Impact Of Social Media Communication On Consumer-Based Brand Equity And Purchasing Intent In A Pandemic. *International Marketing Review*, 40, 1213-1244.
- Wise, S., Laplume, A. & Yeganegi, S. 2024. Accelerator Cohort Social Network Structure And Startup Performance. *Journal Of Small Business & Entrepreneurship*, 36, 1003-1024.
- Yin, R. K. 2009a. *Case Study Research: Design And Methods*, Sage.
- Yin, R. K. J. T. S. H. O. A. S. R. M. 2009b. How To Do Better Case Studies. 2.
- Zafirovski, M. J. E. J. O. S. 2005. Social Exchange Theory Under Scrutiny: A Positive Critique Of Its Economic-Behaviorist Formulations. 2, 1-40.
- Zheng, F., Khan, N. A. & Hussain, S. 2020. The Covid 19 Pandemic And Digital Higher Education: Exploring The Impact Of Proactive Personality On Social Capital Through Internet Self-Efficacy And Online Interaction Quality. *Children And Youth Services Review*, 119, 105694.