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Business Models for Accelerators: A Structured Literature Review

Carlo Bagnoli[1], Maurizio Massaro[2], Daniel Ruzza[3,*], and Korinzia Toniolo[4]

Abstract

Purpose: This paper aims to provide a better understanding of accelerators' phenomenon, developing a business model framework for these organizations. The proposed framework aims to offer helpful guidance for practitioners and policy-makers, together with various research opportunities for scholars.

Design/Methodology/Approach: The study employs a structured literature review methodology, which guarantees the repeatability of the research and the validity of the outcomes. Additionally, to further test the results of our analysis, we interviewed ten practitioners from some accelerators located in Italy and Slovenia.

Findings: Findings show that the literature on accelerators is still fragmented and under-investigated. The presented framework for an accelerator business model provides insights about the activity and the role of such organizations. The study offers fruitful avenues for future research on accelerators' business models.

Research limitations/implications: Given the fragmented nature and the novelty of the literature on the topic, there may be relevant papers and reports missing in our analysis. Further research should investigate the role of accelerators in the ecosystem they operate in and provide a clear and shared definition in collaboration with all stakeholders.

Practical implications: The presented framework provides practitioners with useful insights for understanding an accelerator activity and valuable recommendations for managing these organizations in the future.

Social implications: Since we consider society among the key stakeholders of an accelerator's business model, this study provides significant insights into the social impact of accelerators in the ecosystem they operate. Relevant implications may be useful, especially for policymakers.

Originality/Value: The main contribution of this study is the extent analysis of a new topic in the entrepreneurial literature, providing a clear and broad perspective of the phenomenon. Furthermore, this study provides relevant insights into the role of accelerators in academic research as well as for practitioners and policymakers.

1 Department of Management, Ca' Foscari University of Venice, Italy, www.unive.it/persone/bagnoli, bagnoli@unive.it
2 Department of Management,Ca' Foscari University of Venice, Italy, https://www.unive.it/data/persone/18972961, maurizio.massaro@unive.it
3 Department of Business and Management, Luiss Guido Carli, Roma, Italy, http://phdmanagement.luiss.it/profile/daniel-ruzza/, druzza@luiss.it
4 Department of Management - DISA, University of Bologna, Italy, https://www.unibo.it/sitoweb/korinzia.toniolo2, korinzia.toniolo2@unibo.it

Introduction

Accelerators are proliferating across the globe, increasing from the first one in 2005 with the foundation of Y Combinator to over 500 in 2015 (Busenitz, L., Matusik, S., Anglin, A. and Dushnitsky, G., 2017). They are becoming a more established phenomenon, driving up the demand for acceleration programs by start-ups and attracting corporates and governments, despite initially cautious and doubtful of their value (Cruz, 2016). Notwithstanding the growing attention focused on this topic, the existing literature is fragmented, and there does not seem to be a generally recognized definition of an accelerator (Torun, 2016).

This study analyses the multifaceted definitions of accelerators found in the literature, identifying a standard set of characteristics. The variety of interpretations reflects the heterogeneity of the types of accelerators considering the organization that supports them, the sector in which they specialize, and the geographical focus they choose. Additionally, this research tries to develop a business model framework for accelerators, bringing together the vital elements for each building block gathered from the analyzed literature. The proposed framework aims to enhance the understanding of the accelerator phenomenon and to present helpful guidance for practitioners, as well as a starting point for future research. As the industry is still young, many business models are yet unproven, and, in the same way, there are no standard indicators for measuring the success or failure of an accelerator program (Cruz, 2016). In this context, our study provides a list of the main success factors identified in the literature.

The paper is organized as follows. Section two depicts the research methodology. Section three describes the main findings from the literature, presenting the accelerator business model framework. Section four discusses the findings and ends the paper with some considerations for future research opportunities.

Methodology

To develop our study, we employ a Structured Literature Review (SLR) approach, as described by Massaro et al. (2016). An SLR is defined as "a method for studying a corpus of scholarly literature, to develop insights,

critical reflections, future research paths and, research questions" (Massaro, M., Dumay, J. and Guthrie, J., 2016). This method requires a rigid structure and a precise work plan; therefore, it guarantees that the search can be replicated (Tranfield, D., Denyer, D. and Smart, P., 2003) and that the different outcomes are valid.

Data acquisition

To develop our study, we first searched the database Scopus using the keyword "accelerator". Indeed, Scopus is "one of the largest abstract and citation databases of peer-reviewed literature" (Massaro, M., Dumay, J. and Bagnoli, C., 2019). Still, it does not include, for example, consultancy reports. One of the authors read all the abstracts and selected only papers related explicitly to accelerators. Withdraw articles focused on other entities such as incubators and business angels.

Additionally, to enlarge our research, we developed an online analysis searching for papers not published in Scopus, such as European Union reports and practitioners' articles. Indeed, "researchers should not confine SLRs solely to journal articles" (Massaro et al., 2016). Therefore, a total amount of twenty-four journal articles, eleven consultancy reports, four institutional reports, and three websites were included in our dataset.

Data analysis

All papers and documents, as described above, were imported in Nvivo and analyzed using a predefined framework split into five primary levels of analysis, using dedicated nodes. The first level of analysis depicts the definition of an accelerator, showing how accelerators differ from other organizations such as incubators and business angels. The second level of analysis aims to identify the main types of accelerators, while the third level recognizes the most promising industries for acceleration. The fourth level seeks to investigate the most relevant features of accelerators' business models provided by the literature. To describe the main characteristics of accelerators, we used the framework developed by Biloslavo, R., Bagnoli, C. and Edgar, D. (2018) as the main reference of our study. Biloslavo et al.'s business model canvas is built "as its visual presentation to be used in practice," adopting a circular viewpoint of the building blocks, instead of a linear one; therefore, we believe it fits the purpose of

our study. Looking at society as one of the nine building blocks of the canvas allows the accelerator to be considered in an ecosystem, assuming a holistic driven approach. Finally, the fifth and last level of our analysis focuses on the success and risk factors of an acceleration program. Table I depicts our research framework and the nodes used.

Codes name
A_Defining Accelerators
A 01_Definitions
A 02_Differences from Incubators
A 03_Differences from Angels
A 04_Theme not addressed
B_Types of Accelerators
B 01_Venture-backed accelerator
B 02_Government-backed accelerator
B 03_Corporate-sponsored accelerator
B 04_University-led accelerator
B 05_Sector focus
B 06_Geographic focus
B 07_Theme not addressed
C_Most promising industries for acceleration
D_Accelerator business model
D 01_Value proposition
D 02_Society
D 03_Partners
D 04_Resources
D 05_Internal processes
D 06_External processes
D 07_Customers
D 08_Products
D 09_Revenue streams
D 10_Costs
D 11_Theme not addressed
E_Key success factors and risk factors of accelerators

Table 1: Research framework

Reliability testing

To further test the results of our analysis, we interviewed ten practitioners from some accelerators located in Italy and Slovenia to gather fundamental informants' review or analysis (Yin, 1984). The interviews were conducted using half-structured questionnaires, focusing on the services offered to start-ups and on the accelerators' business models. In the SLR approach, the use of reliability measures helps researchers in demonstrating that their data: "(a) have been generated with all conceivable precautions in place against known pollutants, distortions and biases, intentional or accidental, and (b) mean the same thing for everyone who uses them" (Krippendorff, 2004, p. 267). Therefore, by reducing bias, researchers can argue that their analytical framework is reliable.

Findings
A definition of accelerator

The global accelerator landscape is growing and changing at a rapid pace (GALI, 2016). It is becoming more and more challenging to reach a shared and precise definition of an accelerator. As new models emerge, the term accelerator describes an increasingly diverse set of programs and organizations and, often, the lines that distinguish accelerators from similar institutions, like incubators and early-stage funds, become blurred (Goldstein, A., Lehmann, E. J., Prax, E., 2015). From our literature review, we found 29 different definitions, which we analyzed using the software "Leximancer", a text-mining tool for visualizing the structure of concepts and themes in a text (Cretchley, J., Rooney, D. and Gallois, C., 2010). Figure 1 is a graphic representation of the main characteristics of accelerators detected by the software. The spheres identified as most important in Figure 1 by their size (mentorship, start-ups, support, program, event, model, early) map the most relevant features of accelerators. Indeed, despite the variety of definitions, they all refer to the need to keep a time-limited (three to six months) cohort-based program targeted to early-stage start-ups, including mentorship support and public pitch events (Miller and Bound, 2011; Isabelle, 2013; Cohen and Hochberg, 2014).

Interestingly, accelerators bear some similarities to incubators and angel investors (Cohen and Hochberg, 2014). They all help and fund nascent ventures, offering educational components and mentorship programs (Cohen, 2013). The fixed length of the program, its intensity, the provision of benefits and services, and the cohort-based nature distinguish accelerators from incubators, which lack a fixed term and do not typically
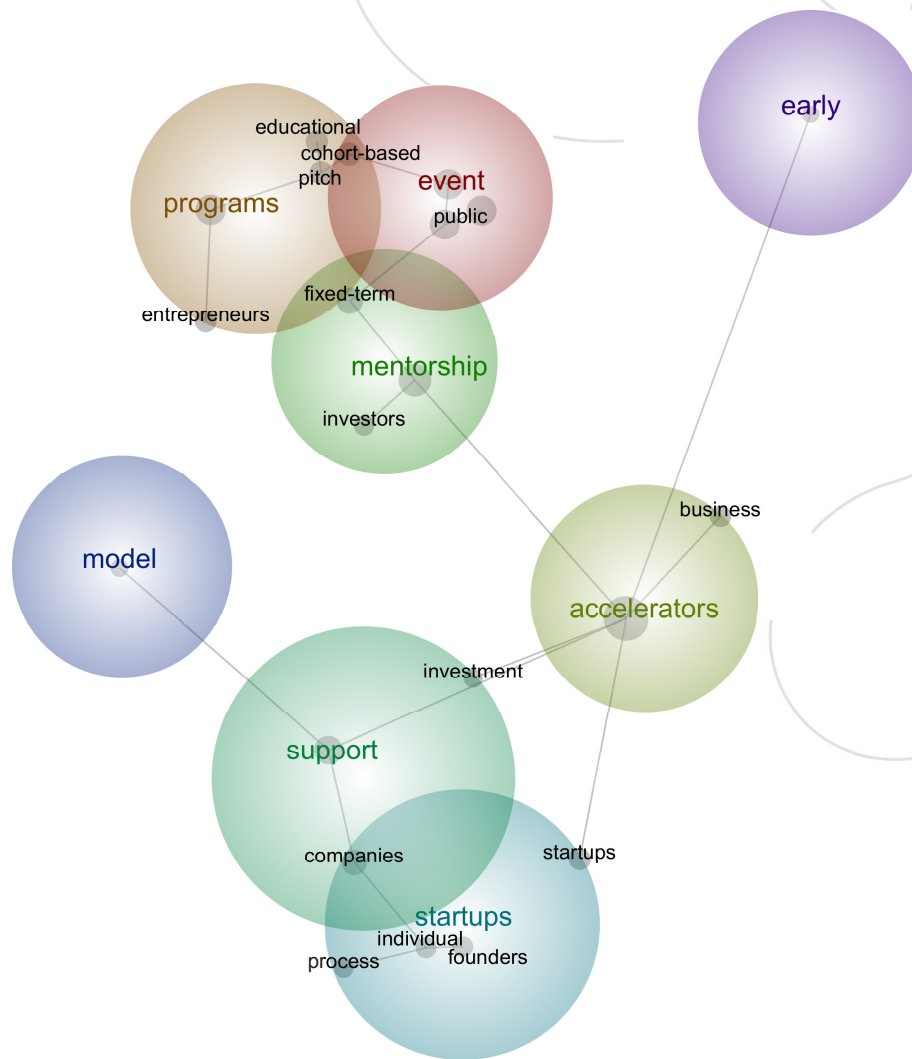
Figure 1: The Accelerator's definition analysis

provide equity investment in return for cash (Clarysse, B., Wright, M. and Hove, J. Van., 2015). On the other hand, accelerators are maybe more similar to business angel investors (Cohen and Hochberg, 2014). Those are wealthy individuals who invest their own money into early-stage start-ups, usually having previous experience in seed investing or who might have started a few businesses on their own before (Wiltbank, R., Read, S., Dew, N. and Sarasvathy, S.D., 2009). Like accelerators, angel investments can improve the survival rate of start-ups.

Types of accelerators and most prosing industries

As accelerators have increased in popularity, many potential entrepreneurs and organizations, such as universities, companies, and regional development agencies, feel attracted by the idea of starting an accelerator (Clarysse et al., 2015). However, starting an accelerator needs a very clear vision and strategy about the goal to be achieved. The rationale behind different accelerator models lies in their ability to target a broad category of start-ups, as well as having different objectives and stakeholders (Tasic, I., Montoro-Sànchez, A. and Cano, M., 2015). The analyzed literature identifies four main types of accelerators based on the organization that supports them. Out of the total of the papers analysed, most speak of corporate-sponsored accelerators, followed by venture-backed accelerators.

The first type identified refers to venture-backed accelerators. Also referred to as "investor-backed archetype"

(Clarysse et al., 2015), this kind of accelerator is funded by business angels, venture capital funds, or corporate venture capital. It focuses on start-ups in the later stage of development, seeking significant returns on equity investments (Cruz, 2016). The most effective example is Y-Combinator. It is the world's most successful and most influential accelerator and acts as a model for many other accelerators (Fowle, 2017). This accelerator selects two cohorts of startups each year and gives them money, mentorship, connection, in exchange for 7% equity (Cruz, 2016). Some examples of "unicorns" that join the program are AirBnB, DropBox, Stripe.

The second type, named the government-backed accelerator, typically selects ventures in a very early stage in the lifecycle (Nesta, 2014), stimulating the start-up activity in the ecosystem. Indeed, public accelerators are a popular policy instrument to foster entrepreneurship and regional innovation, aiming to create jobs and catalyze local economic growth (Miller and Bound, 2011). Start-Up Chile is the biggest accelerator in Latin America, and the Chilean Government founds it. It is based in Santiago and, startups can benefit from several benefits that the Chilean government offers them as an equity-free investment, working visa for a year, soft landing when the startuppers arrive in Chile. The program has a double goal: to boost local startups to use Chile as a platform to go global and to attract external start-ups and make Chile the innovation and entrepreneurship hub of Latin America (Cruz, 2016).

The third type of accelerator, the corporate-sponsored accelerator, is set up by corporates, whose goal is to insource external innovation and to stimulate corporate innovation (Kanbach and Stubner, 2016). Interestingly, it often has no profit orientation, and the main goal is to match the startups with potential corporate stakeholders (Clarysse et al., 2015). An example is the FinTech Innovation Lab led by Accenture. It was initially developed in New York, but now, thanks to its success, it is also run in London and Honk Kong. It creates a win-win situation for both Accenture and startups. Its primary focus is to create a platform for the financial services industry to collaborate on innovation with early-stage ventures. In the meantime, Accenture can strengthen its relationship with banking clients (Clarysse et al., 2015). However, it is focused on a specific industry and startups outside that industry is not admitted.

Similarly, the fourth type, the university-led accelerator, generally does not offer initial funds and takes no equity in the student-founded ventures (Cruz, 2016). This type of accelerator is a non-profit educational entity, supporting student entrepreneurship and fostering innovation inside and outside the university (Dempwolf, C.S., Auer, J. and Ippolito, M.D., 2014). One of the most successful examples of a university-led accelerator is StartX. Founded in 2011, StartX is associated with Stanford University. Today, the companies that StartX has accelerated from the foundation phase have a combined value of more than 19 billion dollars. The key to its success is that it is a not-for-profit organization that does not take equities, does not give a time limit to the startup, and does not have mandatory events (Cruz, 2016). On the other side, at least one member of the company must have some connections with Stanford University.

The accelerators may also differ based on the industry sector and geographical focus. Concerning the geographic model, the literature identifies three levels: local, cross-border, and global. Accelerators focused on a specific area have an impact on the local entrepreneurial ecosystem (Komarek, R., Knight, D. and Kotys-Schwartz, D.A., 2016). Cross-border accelerators are conceived to develop integrated activities between two or more players located in different adjacent regions or countries; they perceive common goals as creating a network of key players. Global accelerators aim to spread best practices internationally. Several corporate accelerator programs have multiple international locations, building relationships among different ecosystems (Kanbach and Stubner, 2016; EAS, 2016).

Regarding the sector, this can range from being very generic to very specific (Clarysse et al., 2015). Recently, the growing competition among accelerators has led to a trend of specializations (Greiler, 2017), bringing more value to start-ups through more qualified acceleration teams and close corporate ties to related markets (Gust, 2016; Bauer, S., Obwegeser, N. and Avdagic, Z., 2016)). Typically, venture-backed and corporate-sponsored accelerators tend to choose a few verticals, boosting specific industries or technologies (Cruz, 2016). In our literature review, we have identified twenty promising sectors for acceleration (Table 2). The most cited industry is technology, media, and telecommunications. The

Most promising industries for acceleration	Sources
Technology, media & telecommunications	9
Financial services	7
Healthcare	7
Consumer goods	4
Education	4
Agriculture and foods	3
Entertainment	2
E-Commerce	2
Cloud services	2
Biotech	2
Drones	2
Real estate	2
Publishing	1
Life science	1
Energy	1
Water and sanitation	1
Environment	1
Business & Productivity	1
Marketing & advertising	1
Creative industries	1

Table 2: Most promising industries for acceleration

term technology means that the start-ups accepted by the accelerator are focused on a relatively narrow range of connected technologies (Dempwolf et al., 2014). This is followed by financial services and healthcare identified in seven of the analyzed sources. According to Ream and Schatsky (2016), twenty-three percent of accelerators are focused on financial services. Consumer goods and education are considered promising industries for acceleration in four papers; while, just three papers talk about agriculture and food. The other sectors seem to have less marked relevance in the analyzed literature.

The accelerator business model

In the literature review performed in this study, a number of papers try to provide insights about accelerators' business models. For example, Kohler (2016) defines four design dimensions (people, process, proposition, place) to set up corporate accelerators, intending to provide a starting point for managers who want to set up or enhance a corporate accelerator. Similarly, Kanbach et al. (2016) discuss a typology

for corporate accelerators, identifying possible configurations. Other studies adopt the seminal framework developed by Osterwalder and Pigneur (2010), highlighting the foundational role of the value proposition (Dempwolf et al., 2014; Torun, 2016). In this context, Carvalho et al. (2017) assert that the nature of accelerators is evolving, trying to adopt sustainable business models, while Kupp et al. (2017) assert the necessity for companies to adjust and align their business models to face digital transformation by creating corporate accelerators. However, these studies do not provide a comprehensive framework for analyzing the accelerators' business model. In this paper, in order to identify and analyze the characteristics of the accelerators' business model, we focused on the nine building blocks of Biloslavo et al.'s framework (2018). This model differs from other approaches, such as Osterwalder and Pigneur's (2010), for the following reasons: (1) the value creation is seen from a broader point of view including customers' value, society's value, partners' value, and the same company's value; (2) it considers the overall costs and benefits generated by the company's business; (3) the resources involve everything able to create benefits, including the natural environment; (4) the nine building blocks that shape the framework are designed as triangles to visually support the systemic relationships developing among the partners (Biloslavo et al., 2018). In the following sub-sections, the nine building blocks of accelerators' business model are described.

Value proposition

The value proposition represents the proposal that the organization makes towards its stakeholders aimed at satisfying their needs and challenges (Bagnoli, C., Massaro, M., Dal Mas, F. and Demartini, M., 2019). The accelerators' value proposition at start-ups is to speed up their growth and development (Nesta, 2014). Through their programs, which offer a combination of financial support, guidance, and training, they try to add value to start-ups helping new-born ventures to adapt quickly and learn (Torun, 2016). For venture capitalists and angel investors, the value proposition consists of brokerage services, which keep them informed of viable investments, while for established companies, it consists of acquisition opportunities (Dempwolf et al., 2014). Additionally, the more structured accelerators let their skills and experience available to the

companies who want to start their corporate accelerator, helping them to run and manage it.

Society

Society includes various stakeholders by whom firms establish and maintain mutually beneficial relationships, as well as the natural environment with its ecosystem services, which represent a source of all human life and activities (Biloslavo et al., 2018). Accelerators promote the ecosystem development by fostering innovation and economic growth (Battistella, C., De Toni, A.F. and Pessot, E., 2017; Thurik & Wennekers, 1999), as well as contributing to the cultural capital development of the region they operate in (Bauer et al., 2016). Successful accelerators have a fundamental role in introducing and building new network ties between founders, investors, and other stakeholders (Battistella et al., 2017), generating new value. Additionally, many public-funded accelerators focus on social and environmental benefits, i.e., working as critical drivers for the creation of new jobs (EBN, 2015) and encouraging social innovation (Nesta, 2014).

Partners

The partners' building block consists of the network of suppliers and partners that makes the business model work (Biloslavo et al., 2018). Mentors are among the key partners for an accelerator because mentorship is one of the most significant values that an acceleration program provides to its start-ups (Cruz, 2016). Mentors are experienced entrepreneurs or angel investors who are heavily vetted before being included in the accelerator's program (Clarysse et al., 2015). The key characteristics of a good mentor are the unique expertise acquired through experience, his/her network (Cruz, 2016), and his/her specific sector knowledge. These allow accelerators to improve the selection process further and provide more targeted mentoring, training, and network building services to its incubates (Stam and Buschmann, 2011). Furthermore, not all successful entrepreneurs can act as good mentors. Indeed, there is a need for a strong predisposition and willingness to help new entrepreneurs to achieve success.

Accelerators should tighten relationships also with their alumni. All accelerators acknowledge their alumni network as a valuable asset of the program; thus, promoting an alumni network is a priority (Nesta, 2014).

Most accelerators run regular events for alumni and invite them back into the program to share their experiences. After several years of activity, accelerators can identify future mentors or investors among successful alumni. These alumni are more likely to help those who have guided them in taking the first steps in their entrepreneurial journey (Clarysse et al., 2015).

Another fundamental category of partners is investors. Usually, these are venture capitalists or angel investors. Most accelerators have their network of business angels and venture capitalists willing to provide funding to the most promising start-ups admitted in the program (Battistella et al., 2017). They tend to invest in such companies because they may earn a massive return on their investments(Dempwolf et al., 2014).

It is possible to identify also technological partners who support the technical development of the start-up's products or services. The collaboration between successful start-ups and tech partners developed during the program can go further and become a long term partnership for product or service co-development (Battistella et al., 2017). Finally, accelerators develop partnerships with corporations. Accelerators typically link with relevant industry players to get the expertise they need (Nesta, 2014).

Resources

Resources used by companies can be distinguished into the following types: financial (e.g., cash used in transactions), manufactured (e.g., semi-products, infrastructure), intellectual (e.g., patents, tacit knowledge), human (e.g., labor, skills, motivation), social and relationship (e.g., shared norms, brand loyalty), and natural (e.g., clean air, biodiversity) (Biloslavo et al., 2018). Focusing on accelerators, manufactured resources are mostly made up of the offices' space that the accelerator makes available to start-ups. In most of the cases, start-ups are co-located in a shared open office space that encourages peer–to–peer learning and collaboration (Clarysse et al., 2015). Financial resources are essential to support expensive acceleration programs. The majority of accelerators retrieve the financial resources they need from partnerships with investors, such as angel investors or venture capitalists or from companies' partnerships. Internal coaches are part of human resources; they try to guide the entrepreneurs in the right decision

choice (Clarysse et al., 2015). Other professional figures can be identified in the accelerator staff, for example, business developers who help the start-ups in testing their business idea on the market (Clarysse et al., 2015).

Considering social and relationship resources, we have identified the credibility as a critical resource for all accelerators. Credibility is linked to several factors: reviews, reputation, exits, networks (Cruz, 2016). The accelerators' credibility depends on the success stories of their alumni. If their start-ups finish the program, but they fail in finding investors, this can reflect badly on the accelerator (Cruz, 2016). Accelerator's reputation enables a virtuous circular system: greater credibility will attract the best start-ups that, performing successfully, will contribute to increasing further the accelerator brand awareness (Fowle, 2017). Finally, a start-up cannot cover all the expertise it requires from day one and very often, not even after a few years (Kupp, M., Marval, M. and Borchers, P., 2017). Therefore, a good accelerator must provide the knowledge needed by the start-ups, and it must be able to transfer it in an effective way (Bauer et al., 2016).

Processes
Processes include inbound logistics (i.e., procurement and supply channels), R&D, and operations as well as marketing and outbound logistics (i.e., distribution and communication channels) (Biloslavo et al., 2018; Nielsen, C., Lund, M., Montemari, M., Paolone, F., Massaro, M. and Dumay, J., 2018). Processes can be distinguished in external as well as internal processes. The accelerator's external processes identified in the literature review are communication, events, demo days, and selection process. For an accelerator, it is essential to define a strategy for communicating the acceleration program (Cruz, 2016). Methods of communication include broadcasting, newsletters, and showcase events to illustrate their programs (Clarysse et al., 2015). However, the website is the most used tool to communicate with the stakeholders (Stam and Buschmann, 2011).

Accelerators use to organize events with different purposes and objectives. The vast majority of the events are training sessions, workshops, and practical learning-oriented events (Clarysse et al., 2015). Most accelerators run regular events in collaboration with the alumni network inviting them to share their experiences (Clarysse

et al., 2015). Moreover, events such as meetups, talks, hackathons, and other similar initiatives bring together different ecosystem stakeholders such as entrepreneurs, investors, mentors, design experts, tech people, and others (Cruz, 2016). Demo days are the events that close the program. During the demo days, ventures pitch to a broad audience of qualified investors (Melvin, A.D., Lucia, A.C., Solomos, G., Volta, G. and Emmony, D.C., 1990) for visibility and follow-on funding purposes (Goldstein et al., 2015).

Through the selection process, the accelerators identify the companies that fulfill the essential criteria to be admitted to the program (EBN, 2015). The most common approach to kick off the selection process is the launch of a competitive call, which is usually free and available on the accelerator's website (Zhdanova and Milyaev, 2016). The selection process of top tier acceleration programs is generally structured as follows: start-uppers fill a detailed questionnaire, including a video presentation; then, they are interviewed online, and finally, there is a panel interview (online or personal) (Cruz, 2016). Finally, the development and maintenance of partner relationships are part of the external processes (Cruz, 2016).

The accelerator's internal processes identified by the literature are mentoring, monitoring, education, technical, and financial assistance. The education process provides start-ups with basic knowledge to develop a business. For example, it provides the knowledge to understand the deal's structure and the evaluation process, to negotiate with investors and to evaluate if the investor's proposal suits their needs (Cruz, 2016). The focus is on financing alternatives and the expected effects of financial choices rather than on calculations and discussing financial ratios and impact (Malmström and Johansson, 2017). Jaffee (2007) identifies more benefits of the learning process, such as the interaction with peers, the active engagement and problem-solving development, and the development of relationships (Fowle, 2017). Accelerators have to teach start-uppers how to get the most out of the mentors, to allow them to make the best use of mentorship service (Cruz, 2016). Navigating a vast network of mentors with diversified skills can be difficult for early-stage ventures, so some programs offer open sessions with mentors (Nesta, 2014). Increasingly, mentors and

mentees are matched through speed dating or match-making events, which enable teams and mentors to quickly find out if there is any chemistry between them (Nesta, 2014). Moreover, mentors are trained by the accelerator and evaluated by the start-ups at the end of the process (Cruz, 2016). Not only the mentors are evaluated, but the start-ups, too. By telling them that they are going to be monitored, they get into the habit of measuring and reporting (Battistella et al., 2017).

Customers

The customer's building block includes the different groups of people or organizations that the firm aims to reach and serve by its products and services (Biloslavo et al., 2018). The acceleration programs are mainly developed and implemented for a single customer category: start-ups. The vast majority of the accelerators work with cohorts or classes of start-ups rather than individual companies (Clarysse et al., 2015). There are different types of programs to target a wide range of start-ups with different objectives and key stakeholders (Clarysse et al., 2015). There are acceleration programs focused on specific stages of the start-up lifecycle as well as on specific industries or technologies (Cruz, 2016).

There are accelerators focused on entrepreneurs. Although some entrepreneurs have a clearly formulated business model when they start a business, many of them start with partially formed and incomplete models (Malmström and Johansson, 2017). Often, they have not yet developed a value proposition, and sometimes it is just a person with an idea (Clarysse et al., 2015). Entrepreneurs apply for an opportunity to develop their concepts on-site during a fixed time period (Drover, W., Busenitz, L., Matusik, S., Townsend, D., Anglin, A. and Dushnitsky, G., 2017). There are accelerators focused on early-stage start-ups that may have initial market traction but require further funding and will likely not yet be generating profits; and on growth-stage start-ups that demonstrate viability, growth, and potential profitability (GALI, 2016).

We can identify two more types of customers in many of the accelerator's business models: the companies and the investors. Companies show a growing interest in working with start-ups (Cruz, 2016) because they look for innovative products or new firms to acquire as part of their business strategies (Dempwolf et al.,

2014). Moreover, there is a considerable number of companies that outsource the company's accelerator management to established accelerators. This happens because the launch and execution of a corporate accelerator program are complex tasks, and usually, the parent company does not have the required capabilities (Kanbach and Stubner, 2016). In some cases, investors can be considered as real customers. They provide capital to the accelerator to get a service that consists of the reduction of the research and selection costs of early-stage investments (Bauer et al., 2016).

Products

Products are the bundle of goods and services that create value for customers by satisfying their needs and wants (Biloslavo et al., 2018). The product that accelerators make available to start-ups is the acceleration program. Although this is variable based on the accelerator's type, it is possible to identify some common characteristics.

According to Goldstein et al. (2015), the acceleration proposal is made up of five basic steps: the selection process, the deal, the program, the completion, and the alumni program. The selection process defines the methods of scouting and selecting start-ups (Goldstein et al., 2015). The selection process can have multiple interactions, such as interviews, pitch events, and Q&A sessions. The deal marks the beginning of the acceleration program and determines the contractual ties between the start-up and accelerator (Goldstein et al., 2015). The acceleration program consists of a series of services that the accelerator provides to start-ups to boost their growth. The program closes with a demo day inviting the network of investors and business angels, as well as internal investors, to create funding opportunities, and representatives of the organization to assess possibilities of further cooperation (Goldstein et al., 2015). The start-ups that have completed the program continue to develop and scale in the alumni program. This is the time when start-ups receive follow-on funding. The key elements of the program identified in the literature review are:

- Limited duration: the duration of the program is typically three months (Cruz, 2016) and no more than six to instill a sense of urgency and, thereby, encourage fast results (Goldstein et al., 2015).

- The education and training: business accelerators use to organize specific training that all accepted start-ups go through. They include lectures, seminars, workshops, masterclasses, and business games that can cover a wide range of topics, from finance, marketing, logistics to legal, and HR aspects, among others (Zhdanova and Milyaev, 2016).

- Support from the management team: this means regular interactions with the management team to review progress and provide business advice(Nesta, 2014). Teams receive regular counseling, often in the form of weekly office hours. These regular meetings with the accelerator management team generate mutual trust, providing the founding teams with business assistance and enabling a constant review of their progress(Clarysse et al., 2015).

- A program of events, expert workshops, and inspiring talks (Goldstein et al., 2015).

- Structured mentoring: mentorship is frequently cited as one of the most valuable aspects of accelerator programs (Roberts, P.W., Edens, G., Davidson, A., Thomas, E., Chao, C., Heidkamp, K. and Yeo, J.H., 2017). The accelerator directors and program's mentors meet founders on a periodical basis to provide guidance, network opportunities and to create a mutual trust with stakeholders that potentially could become later-stage investors and advisors (Goldstein et al., 2015).

- Co-location: shared open space co-location in a shared open office space encourages peer–to–peer learning and collaboration(Clarysse et al., 2015), moreover, it informally stimulates peer pressure to guarantee quality and time management (Goldstein et al., 2015).

- Networking opportunities: these can be established with experts and professionals and with other start-ups. The cohort meets together for weekly speaker dinners, and start-ups have regular office hours with mentors(Clarysse et al., 2015).

- Funding: access to investors is a service that all accelerators provide to start-ups. They facilitate these connections through both investor events and one-to-one matchmaking.

Revenues

Revenues are divided among benefits delivered to society and the environment (i.e., public and partner value) and revenue sources by which the firm captures some economic value for itself (Biloslavo et al., 2018). In the 2016 Gust Report, 60.2% accelerators indicated that they intended to follow the traditional cash-for-equity model, established in 2005 by Y Combinator. This model is based on investing a small and fixed amount of money, between 15.000$ and 30.000$, in exchange for a fixed percentage of start-up's equity, between 5% and 10% (Brunet, S., Grof, M., Izquierdo, D., 2016). Even if it is still very used, this model is being replaced by other forms of revenue. The reason must be sought in the tiny percentage of successful exits and the long-time required for these to be realized. In a sample of accelerators analyzed by Nesta (2014), only 2.1% had gone through an exit of $5 million or more, and less than 10% generated revenues from equity returns or success fees charged to investors (GALI, 2016). Moreover, exits usually happen not before three to five years of a start-up's lifecycle, which highlights the issue of additional revenue streams for maintaining the costly programs (Greiler, 2017).

Alternative revenue streams are usually mentorship fees, rents, events, and very often, corporate sponsorships and partnerships. In 2016, corporate revenues generated by accelerators came from two main sources: corporate partnerships, generally in the form of a white-labeled or jointly-run acceleration program created by the accelerator on behalf of the corporation, and corporate sponsorship packages sold by accelerators (Brunet, S., Grof, M., Izquierdo, D., 2016).

Costs

Costs are divided between costs that represent the negative impact of a firm's outcomes and outputs on society and environment and cost drivers that impact the financial aspects of a firm's performance. (Biloslavo et al., 2018). The costs that an incubator could incur can vary depending on the nature of the services as well as on the business ecosystem and target group. The main costs for the accelerators analyzed are staffing costs (Stam and Buschmann, 2011). However, the costs for the
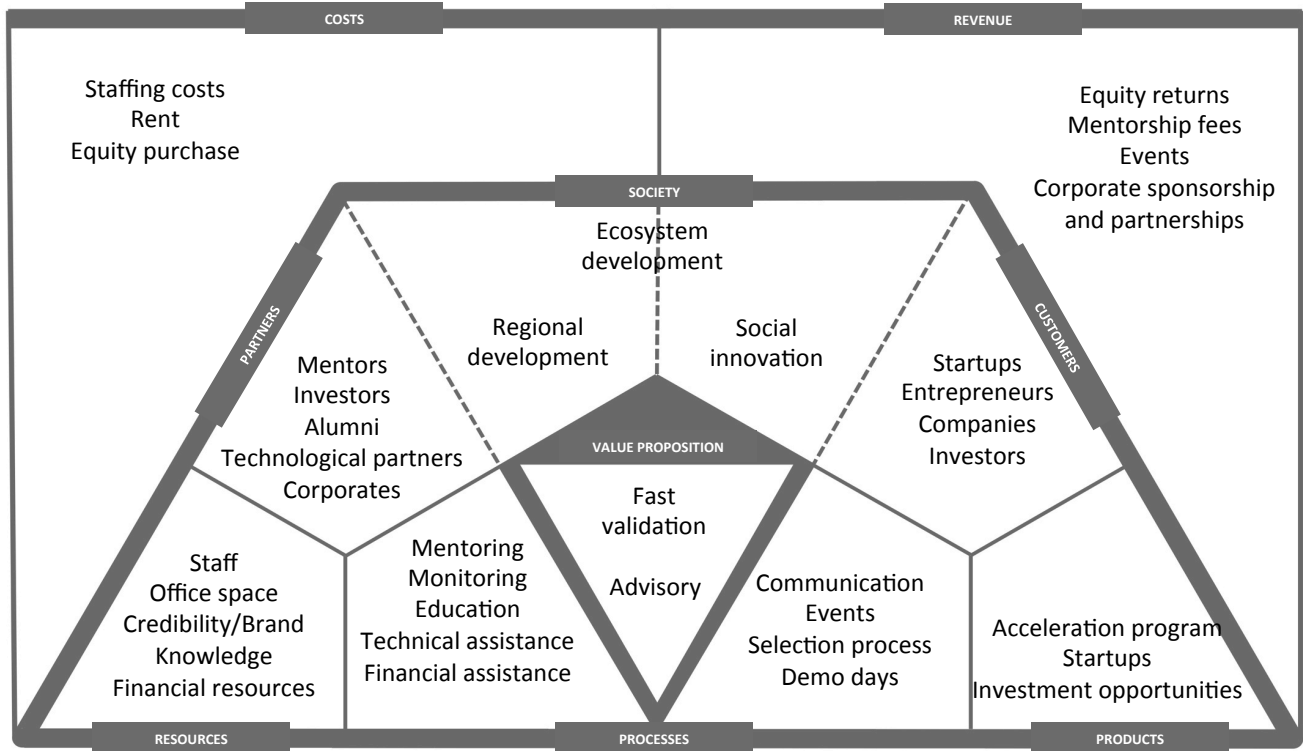
Figure 2 The accelerator's business model framework

equity purchase and the costs related to the coworking spaces are also significant expense items(Torun, 2016).

Key success factors and key risks factors

Business models support management in the systematic analysis of the factors of success and the adaptation of business activities (Nielsen et al., 2018). As accelerators have different goals and objectives, the literature concerning accelerators lacks clear information about key success factors (KSF), as well as key risk factors (KRF). However, they are a further important aspect of the literature (Fowle, 2017). There have been many attempts to bring together accelerators' success factors, but these are generally derived and adapted from incubators (Fowle, 2017). Additionally, due to the start-up nature of many accelerators, they do not have time and resources for gathering and processing data, which they do not commonly convey or publish (Brigl, M., Roos, A., Schmieg, F. and Watten, D., 2017). Table 2 shows the thirty KSFs identified in the forty-two papers examined, connected to each building block of the business model canvas.

Considering the value proposition as the essence of the strategy (Kaplan and Norton, 2001) and the most influential component of a business model (Lecocq, 2010; Teece, 2010), the presence of a clear value proposition is a relevant indicator to determine the success of an accelerator. Biloslavo et al. (2018) highlight three types of value, namely customer value, partner value, and public value. The success of an accelerator is not only determined by the value delivered to its customers, but also by the value delivered to its partners, like alumni, mentors, and investors, and to society, i.e., the other actors of the ecosystem in which it operates. As stated by Haslam (2015), "a firm's business model is also about total value creation for all partners involved".

Focusing on the extended network of relationships outside the company (Biloslavo et al., 2018; Morten and Nielsen, 2014), this broader overview allows considering the impact in the ecosystem as a key success factor, which takes into account the critical role of an accelerator in boosting its entrepreneurial community. Accelerators act as focal points for introducing and building connections between founders, investors, and other stakeholders. Symmetrically, the disconnection to the local investment community must be recognized as a key risk factor. In our literature review, it is only mentioned by Miller and Bound (2011), but it is confirmed by the accelerators we interviewed.

Building Block	Key Success Factors	Sources
VALUE PROPOSITION	Definition of clear long-term objectives	7
	Set of transparent and aligned goals	3
	Definition of a clear value proposition	3
SOCIETY	Impact in the ecosystem	4
	Location	3
PARTNERS	Mentorship quality	27
	Extent of partners network	21
	Extent of alumni network	9
	Corporate backing	5
	Quality of experts involved	4
RESOURCES	Brand reputation	9
	Accelerator team experience	6
	Links to funding sources	5
	Product expertise	4
	Business expertise	4
PROCESSES	Events as network opportunity	11
	Dialogue with startups and inside cohorts	5
	Clear definition of selection process & criteria	4
	Effective organization design	3
	Definition of metrics to track startup success	3
	Quality of applications	3
CUSTOMERS	Startup financial support	7
	Right startup portfolio size	3
	Services for companies	2
PRODUCTS	Quality of the program	7
	Strategic alignment	4
	Action orientation	3
	Extracurricular programs	3
	Education offered	2
	Time limited support	1

Table 3: Key Success Factors identified in the literature

Similarly, considering the partners' building block (Bilo-slavo et al., 2018), mentorship quality is the most cited KSF, together with the extent of the partners' network. Indeed, these are crucial factors for start-ups and entrepreneurs who decide to join an acceleration program (Gali, 2016). All practitioners we interviewed confirmed the importance of the development of partners' networks, providing similar responses. The network is widely recognized as the biggest asset for accelerators because it adds credibility to the product they deliver (i.e., the program) through the involvement of mentors, investors, corporate executives, experts, and alumni (Roberts et al., 2017). Concerning the alumni network, we identified a specific KSF in the literature. The alumni network is an important source for mentors and investors, as successful graduates are more likely to invest back into the community, which supported them in the first place (Fowle, 2017). Furthermore, they actively contribute to raising brand awareness of the accelerator.

Interestingly, in the resources building block, we stated brand reputation and credibility as crucial resources. Biloslavo et al. (2018) recognize the brand as part of the resources, as it is "required to deliver the value proposition to customers"(Biloslavo et al., 2018, p. 754). An accelerator builds its brand through features, positive associations, and remarkable alumni stories. Reputation allows it to attract more partners and better applicants, creating a virtuous cycle: the increased quality creates better outcomes and a richer stakeholders and alumni network who enhance the reputation still further (Fowle, 2017). The effects of accelerator's brand reputation are not limited to raising investors and attracting the best applicants, but it also affects start-ups' reputation. In any negotiation, the reputation of the start-up, which has no track record, is heavily affected by association with the accelerator. Therefore, brand reputation could be a KSF as well as a KRF, if it arises from negative feedbacks and opinions. In this sense, one practitioner said: "we are strongly concerned about the development and monitoring of our brand awareness, indeed nowadays reputation is a strong driver of attraction if positive, but if negative it is totally a business threat."

Considering the processes building block (Biloslavo et al., 2018), events, meetups, talks, and hackathons work as communication channels both for accelerators and start-ups. Indeed, networking at events and conferences is considered an important success factor for two reasons. For accelerators, this represents the possibility to identify and attract promising start-ups with skilled entrepreneurial teams and excellent ideas. On the other side, for start-ups, events like demo days represent the possibility of connecting with potential investors (Nesta, 2014). In the same context, another important success factor is the dialogue between accelerator directors and participating ventures to "encourage ventures to learn and adapt" (Cohen and Hochberg, 2014). Fowle (2017, p. 12) highlights the role of dialogue inside cohorts, saying that "the practice of dialogue in accelerator cohorts creates a culture of dialogue that founders are more likely to take into their start-ups".

Finally, looking at customers, we identify start-ups and entrepreneurs as the main customers for an accelerator. The most cited KFS concerning this building block is start-up financial support. In this sense, Kaplan and Strömberg (2001) assert that, for a start-up,

participating in an accelerator, of itself, may significantly mitigate the principal-agent problem. Considering the product, Fowle (2017) focuses on two main KSFs, namely the quality of the program and the action orientation. The last one is recognized to be a critical entrepreneurial trait, and this is confirmed by the practitioners interviewed in our study. Many of them endorse the use of practical methods, which means doing things to deal with problems and not just talking about ideas.

Although most of the identified KSFs are common to all four types of accelerators identified. It is possible to identify some KSFs that are more relevant for some types rather than others. For venture-backed accelerators, it is imperative to produce an economic return; therefore, the KSFs that lead to it are brand reputation, business expertise, and program quality (Fowle, 2017). For government-backed accelerators, the impact on the ecosystem and the location are fundamental. For corporate-backed accelerators, the link between the accelerator and the financing company is mandatory. Thus, the accelerator team is an essential KSF and must refer to a mix of people inside and outside the company (Kanbach and Stubner, 2016). Finally, for the university-backed accelerators, the training is the most critical aspect; consequently, the education offered is one of the most relevant KSF (Komarek et al., 2016).

Discussion and Conclusions

To conclude the paper, the authors reflect on the main findings of this study and, therefore, develop and address several implications for practitioners, policymakers, and scholars in the following sub-sections.

Implication 1: Focusing on accelerators' definition

The starting point of our article is the effort to present a clear definition of an accelerator, identifying the main characteristics cited in the literature. As stated by Torun (2016, p. 1) "there is an ambiguity about the definition of accelerators and incubators as well as their differences. However, if an adequate amount of literature is reviewed, one can easily reach the needed staff about the incubation and acceleration industry." We encountered plenty of varying definitions and approaches which reflect the heterogeneity of the

field. Given the pragmatic role of accelerators in the entrepreneurial ecosystem, the lack of a clear definition prevents practitioners from understanding the activity of such organizations and the distinctive role of other entities like incubators. Regarding the future stream of research, it seems reasonable that scholars should try to build their studies upon a common basis to create a homogeneous understanding of accelerators and their potentialities. Additionally, "different definition or focus of studies may impede their comparative use when drafting international industrial policies" (Massaro et al., 2016). Making the concept of accelerators more transparent, understandable, and manageable enables a clearer perception also for policymakers who are in charge of developing the right policies and regulations in compliance with the phenomenon. As stated by Massaro *et al.* (2016), "scholars should focus on the stakeholders of research findings, thus developing pragmatic science". This is considered by Anderson (2011) the most important type of research because it conjugates both methodological rigor and practical relevance. It aims to fill the gap between research and stakeholders of research findings, specifically addressing their practical needs, thus improving collaboration between scholars and practitioners. The findings of this study help to reach a shared definition of an accelerator. Interestingly, not all the papers analyzed define the concept of an accelerator, making comparison difficult for academics and practitioners.

Implication 2: Types of accelerators and most promising industries

This study finds different types of accelerators, considering the support they receive. As stated by Hathaway (2016), "not all accelerators are created equally". This reflects the different types of missions and the objectives they intend to pursue, which explain why they exist. For instance, focusing on public-backed accelerators, they play a unique role as a policy tool, contributing to local innovation and entrepreneurship. Additionally, our study provides findings also about the most promising industries for acceleration, which cater implications, especially for policymakers. From a European perspective, policies like Smart Specialization Strategies (S3), aiming to deliver smart, sustainable, and inclusive growth, can take advantage of this kind of study for their implementation. Indeed, regional policymakers need to ensure that their policies facilitate

innovation diffusion and local development from the very start (Carayannis and Rakhmatullin, 2014), which means, e.g., targeting start-ups in specific industry sectors. Therefore, they should be aware of which industries to focus on and which not. In this context, research can support policymakers in the decision processes concerning the sectors to develop, the funds to be allocated, and the programs to be implemented.

Implication 3: Business modeling for accelerators

To describe accelerators' business model, we have applied to Biloslavo et al. (2018) framework. One of its distinctive features is the presence of society as a building block of the business model. Society as a building block (including the natural environment) integrates the framework developed by Osterwalder and Pigneur (2010) and frequently used for analyzing the accelerators' business model (Dempwolf et al., 2014; Torun, 2016). Additionally, looking at the value proposition, one of the advantages of Biloslavo et al.'s framework is that it considers all stakeholders and their different perspectives. Considering customer value, partner value, and public value as foundational to build the value proposition, it links economic value together with social and ecological value. Thanks to the circular approach, the "eco-critical perspective of value proposition" (Biloslavo et al., 2018, p. 753) could be beneficial to the building of accelerators' sustainable business models (Carvalho, A.C., Grilo, A., Pina, J.P. and Zutshi, A., 2017). Considering that most of the existing business model frameworks do not include society in the group of stakeholders (Biloslavo et al., 2018), it is not surprising that this element was the most difficult building block to analyze. Therefore, focusing on the ecosystem perspective, it is necessary to investigate the accelerator business model in a broader sense. The Fifth Helix framework developed by Carayannis and Campbell (2010) can be applied to this purpose. The Fifth Helix is a metaphor that indicates five actors interacting while maintaining their independent identity (Etzkowitz, 2007). The five actors are national or regional authorities, the wider business community (industry), academia (including other research-focused institutions) (Etzkowitz, 2007), the media-based and culture-based public and civil society (Carayannis and Rakhmatullin, 2014), the environment and the natural environments (Carayannis and Campbell, 2010).

Building on these premises, entrepreneurial initiatives can be considered not only as of the actions of individuals from the industrial sphere (Etzkowitz, 2007) but also as the conjoint effort of all stakeholders in the ecosystem considered. This is confirmed by Carayannis and Rakhmatullin (2014) who label accelerators as hybrid institutions synthesizing elements of academia, industry, government as well as society and environment. It is necessary to develop a greater integration with the aim of developing an ecosystem that enables interconnections between the different actors. However, in the literature review, we did not find research on the topic. Indeed, elements such as universities, society, and the environment are rarely and marginally treated. For this reason, future research should investigate the multifaceted role of an accelerator in its ecosystem.

Implication 4: KSFs and KRFs of accelerators

According to this study's results, the key success factors for accelerators have been primarily inferred from incubators' literature, and just a few authors have tried to create a definitive list. Our findings confirm the fragmented literature about KSFs, yet identifying thirty recurring success factors. This contributes to the identification of the so-called "spiral of success" (Fowle, 2017), which is a self-reinforcing, positive feedback loop, such as the virtuous cycle of alumni and brand reputation. On the other hand, we have not identified a significant number of key risk factors (KRFs) or failure factors. As for key success factors, risk factors can be taken up from incubators (Sramana, 2013); otherwise, key success factors can be seen from the negative side (Preuss, 2015). This scarcity of KRFs shows a lack in the literature; therefore, more in-depth research on the subject is required. Research under theories of failure and risk could bring knowledge also about the different perspectives of stakeholders, their role, and motivations, improving the understanding of accelerators' activity in the broader ecosystem they operate. Interestingly, building on Lyytinen and Hirschheim (1987) categories of failure, failure can be viewed not just as a lack to meet objectives and specifications, but also an expectation failure. In this sense, a key factor to be retrieved is stakeholder's perception over time, whose decisions and actions contribute to shaping the outcome. As studies of success and failure are common in emerging fields (Miskon, S., Bandara, W., Gable, G. and Fielt, E., 2011), these should be addressed in future research about accelerators, providing guidance to practice on what to emphasize and what to avoid. Finally, analyzing failure factors not just as hindrances to the achievement of success, but also as outcomes of specific organizational, cultural, and political aspects (Gable, 1996), can implement the strategic view of failure as a step towards success.

Limitations and future research

Despite its multiple insights for scholars, practitioners, and policymakers, this study implies some limitations. First of all, the framework of the business model adopted in this study could require some degree of adaptation by managers used to look at the most famous Osterwalder and Pigneur's (2010) tool. The additional element of society and the ecological perspective embedded in the model can raise questions about the appropriateness of these elements for the building of accelerators' business models. Additionally, given the rigid nature of the analytical approach adopted, it is unlikely that every available scientific and practitioner publication was included in the literature review we conducted. However, despite the fragmentary and novelty nature of the topic investigated, the sample should provide a significant contribution to the advancement of the research in the field. Indeed, literature reviews contribute to developing research paths and questions by providing a foundation on which to build on prior discoveries (Massaro et al., 2016). In this context, our study opens the way to several new research opportunities. First, scholars should be focused on developing a clear, widely-accepted, and shared definition of accelerators. This could be achieved with the collaboration of practitioners, given the strong practical implications of the topic investigated. Second, further research should focus on the social role of accelerators, given the extent of relationships they build in the ecosystem they operate, especially looking at the implications derived from public-backed accelerators. Finally, another research stream could be built on success and failure factors in order to develop a common framework useful both for practitioners and policymakers.

Reference

Anderson, N. (2011), "The practitioner-researcher divide in Industrial, Work and Organizational (IWO) psychology: Where are we now, and where do we go from here?", *Jorunal of Occupational and Organizational Psychology*, Vol. 74, pp. 391–411.

Bagnoli, C., Massaro, M., Dal Mas, F. and Demartini, M. (2019), "Defining the concept of business model. A literature review: Searching for a business model framework", *International Journal of Knowledge and System Science*, Vol. 9 No. 3.

Battistella, C., De Toni, A.F. and Pessot, E. (2017), "Open accelerators for start-ups success: a case study", *European Journal of Innovation Management*, Vol. 20 No. 1, pp. 80–111.

Bauer, S., Obwegeser, N. and Avdagic, Z. (2016), "Corporate Accelerators: Transferring Technology Innovation to Incumbent Companies." paper presented at Tenth Mediterranean Conference on Information Systems (MCIS), Paphos, Cyprus, September 2016, avaiable at: https://aisel.aisnet.org/mcis2016/57/.

Biloslavo, R., Bagnoli, C. and Edgar, D. (2018), "An eco-critical perspective on business models: The value triangle as an approach to closing the sustainability gap", *Journal of Cleaner Production*, Elsevier Ltd, Vol. 174, pp. 746–762.

Brigl, M., Roos, A., Schmieg, F. and Watten, D. (2017), Incubators, Accelerators, Venturing, and More, avaiable at: https://www.bcg.com/publications/2014/mergers-acquisitions-growth-incubators-accelerators-venturing-more.aspx (accessed 30 January 2019).

Brunet, S., Grof, M., Izquierdo, D. (2016), "Global Accelerator Report 2016", available at: http://gust.com/accelerator_reports/2016/global/, (accessed 30 January 2019).

Busenitz, L., Matusik, S., Anglin, A. and Dushnitsky, G. (2017), "A Review and Road Map of Entrepreneurial Equity Financing Research: Venture Capital, Corporate Venture Capital, Angel Investment, Crowdfunding, and Accelerators", *Journal of Management*, Vol. 43 No. 6, pp. 1820–1853.

Carayannis, E.G. and Campbell, D.F.J. (2010), "Triple Helix, Quadruple Helix and Quintuple Helix and How Do Knowledge, Innovation and the Environment Relate To Each Other?", *International Journal of Social Ecology and Sustainable Development*, Vol. 1 No. 1, pp. 41–69.

Carayannis, E.G. and Rakhmatullin, R. (2014), "The Quadruple/Quintuple Innovation Helixes and Smart Specialisation Strategies for Sustainable and Inclusive Growth in Europe and Beyond", *Journal of the Knowledge Economy*, Vol. 5, pp. 212–239.

Carvalho, A.C., Grilo, A., Pina, J.P. and Zutshi, A. (2017), "How Business Startup Accelerators Envision their Future", paper presented at the 7th Annual Conference on Industrial Engineering and Operations Management (IEOM 2017), 11-13 Apr 2017, Rabat, Morocco.

Clarysse, B., Wright, M. and Hove, J. Van. (2015), "A Look inside Accelerators. Building Businesses", avaiable at: https://media.nesta.org.uk/documents/a_look_inside_accelerators.pdf, (accessed 30 January 2019).

Cohen, S. (2013), "What Do Accelerators Do? Insights from Incubators and Angels", *Innovations Technology Governance Globalization,* Vol. 8 No. 3, pp. 19-25.

Cohen, S.L.G. and Hochberg, Y. V. (2014), "Accelerating Startups: The Seed Accelerator Phenomenon", *SSRN Journal*, No. March, pp. 1–16.

Cretchley, J., Rooney, D. and Gallois, C. (2010), "Mapping a 40-Year history with Leximancer: Themes and concepts in the Journal of Cross-Cultural Psychology", *Journal of Cross-Cultural Psychology*, Vol. 41 No. 3, pp. 318–328.

Cruz, E. (2016), "Acceleration Today: Trends & Challenges", avaiable at: http://www.europeanacceleratorsummit. com/wp-content/uploads/sites/14/2016/12/ACCELERATION-TODAY.pdf, (accessed 30 January 2019).

Dempwolf, C.S., Auer, J. and Ippolito, M.D. (2014), "Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations", *Small Business Administration*, No. October, pp. 1–44.

Drover, W., Busenitz, L., Matusik, S., Townsend, D., Anglin, A. and Dushnitsky, G. (2017), "A Review and Road Map of Entrepreneurial Equity Financing Research: Venture Capital, Corporate Venture Capital, Angel Investment, Crowdfunding, and Accelerators", *Journal of Management*, Vol. 43 No. 6, pp. 1820–1853.

EBN. (2015), Accelerating International Growth. A Practical Guidebook for Business Support Organisations, available at: http://europeanace.eu/index.php/guides/item/download/86_7feaa57990b464173fde3514b67eaa81, (accessed 30 January 2019).

Etzkowitz, H. (2007), "University-Industry-Government: The Triple Helix Model of Innovation", *Social Science Information Sur Les Sciences Sociales*, Vol. 42 No. 3, pp. 293–337.

Fowle, M. (2017), "Critical Success Factors for Business Accelerators: A Theoretical Context", *in British Academy of Management Conference 2017,* Warwick Business School, UK.

Gable, G.G. (1996), "A Multidimensional Model of Client Success When Engaging External Consultants", *Management Science*, Vol. 42 No. 8, pp. 1175–1198.

Goldstein, A., Lehmann, E. J., Prax, E. (2015), "Corporate Accelerator. Design Principles for Building a Successful Corporate Accelerator", available at: https://www2.deloitte.com/content/dam/Deloitte/de/Documents/technology/ Corporate_Accelerator_EN.pdf, (accessed 30 January 2019).

Greiler, F. (2017), Top 20 European Accelerators of 2017, available at: https://www.venionaire.com/european-accelerators-2017/, (accessed 30 January 2019).

Haslam, C., Tsitsianis, N., Andersson, T. and Gleade, P. (2015), "Accounting for Business Models and Increasing the Visibility of Stakeholders", *Journal of Business Models*, Vol. 3 No. 1, pp. 62–80.

Hathaway, I. (2016), "What Startup Accelerators Really Do", available at: https://hbr.org/2016/03/what-startup-accelerators-really-do, (accessed 30 January 2019).

Isabelle, D.A. (2013), "Key Factors Affecting a Technology Entrepreneur's Choice of Incubator or Accelerator", *Technology Innovation Management Review*, no. February 2013, pp. 16–22.

Kanbach, D.K. and Stubner, S. (2016), "Corporate Accelerators As Recent Form Of Startup Engagement: The What, The Why, And The How", *The Journal of Applied Business Research*, Vol. 32 No. 6, pp. 1761–1776.

Kaplan, R.S. and Norton, D.P. (2001), *The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment*, Harvard Business School Press, Boston MA.

Kaplan, S.N. and Strömberg, P. (2001), "Venture Capitalists As Principals: Contracting, Screening, and Monitoring." *American Economic Review*, Vol 91, pp. 426-430.

Kohler, T. (2016), "Corporate accelerators: Building bridges between corporations and startups", *Business Horizons*, Vol. 59 No. 3, pp. 347–357.

Komarek, R., Knight, D. and Kotys-Schwartz, D.A. (2016), "Assessment of a Cross-Disciplinary University Startup Accelerator", ASEE's 123rd Annual Conference, New Orleans, LA.

Krippendorff, K. (2004), *Content Analysis. An Introduction to Its Methodology*, Sage Publications Ltd, University of Pennsylvania.

Kupp, M., Marval, M. and Borchers, P. (2017), "Corporate accelerators: fostering innovation while bringing together startups and large firms", *Journal of Business Strategy*, Vol. 38 No. 6, pp. 47–53.

Lecocq, X. (2010), "Business Model Evolution: In Search of Dynamic Consistency", *Long Range Planning*, Pergamon, Vol. 43 No. 2–3, pp. 227–246.

Lyytinen, K. and Hirschheim, R. (1987), "Information systems failure - a survey and classification of the empirical literature", Oxford Surveys in Information Technology, Oxford University Press, New York, pp. 257–309.

Malmström, M. and Johansson, J. (2017), "Practicing Business Model Management in New Ventures", *Journal of Business Models*, Vol. 5 No. 1, pp. 1–13.

Massaro, M., Dumay, J. and Bagnoli, C. (2019), "Transparency and the rhetorical use of citations to Robert Yin in case study research", *Meditari Accountancy Research*, p. MEDAR-08-2017-0202.

Massaro, M., Dumay, J. and Guthrie, J. (2016), "On the shoulders of giants: undertaking a structured literature review in accounting", *Accounting, Auditing and Accountability Journal*, Vol. 29 No. 5, pp. 767–801.

Melvin, A.D., Lucia, A.C., Solomos, G., Volta, G. and Emmony, D.C. (1990), "A note on the use of the thermal response to deformation as a damage assessment tool", *Journal of Materials Science Letters*, Vol. 9 No. 7, pp. 752–753.

Miller, P. and Bound, K. (2011), "The Startup Factories. The Rise of Accelerator Programmes to Support New Technology Ventures", available at http://www.eban.org/wp-content/uploads/2014/09/14.-StartupFactories-The-Rise-of-Accelerator-Programmes.pdf, (accessed 30 January 2019).

Miskon, S., Bandara, W., Gable, G. and Fielt, E. (2011), "Success and failure factors of Shared Services: An IS literature analysis", 2011 International Conference on Research and Innovation in Information Systems, available at: https://doi.org/10.1109/ICRIIS.2011.6125726, (accessed 30 January 2019).

Morten, L. and Nielsen, C. (2014), "The Evolution of Network-based Business Models Illustrated Through the Case Study of an Entrepreneurship Project", *Journal of Business Models*, Vol. 2 No. 1, pp. 105–121.

Nielsen, C., Lund, M., Montemari, M., Paolone, F., Massaro, M. and Dumay, J. (2018), Business Models: A Research Overview, Routledge, New York.

Osterwalder, A. and Pigneur, Y. (2010), Business Model Generation, Wiley, New Jersey.

Preuss, M. (2015), "Why Most Accelerators Fail...and Why Yours Doesn't Have To", available at: https://visible.vc/blog/why-accelerators-fail/, (accessed 30 January 2019).

Ream, J. and Schatsky, D. (2016), "Corporate Accelerators. Spurring Digital Innovation with a Page from the Silicon Valley Playbook", Deloitte University Press.

Roberts, P.W., Edens, G., Davidson, A., Thomas, E., Chao, C., Heidkamp, K. and Yeo, J.H. (2017), Accelerating Startups in Emerging Markets: Insights from 43 Programs, available at: https://www.galidata.org/assets/report/pdf/Accelerating%20Startups%20in%20Emerging%20Markets.pdf, (accessed 30 January 2019).

Roberts, I. (2014), "Startup Accelerator Programmes. A Practice Guide", available at: https://www.nesta.org.uk/toolkit/startup-accelerator-programmes-a-practice-guide/, (accessed 30 January 2019).

Sramana, M. (2013), "The Problems with Incubators, and How to Solve Them", avaiable at: https://hbr.org/2013/08/the-problems-with-incubators-a, (accessed 30 January 2019).

Stam, N. and Buschmann, S. (2011), "Lessons on Virtual Business Incubation Services", available at: https://www.academia.edu/33360400/Lessons_on_Virtual_business_incubation_service_provision, (accessed 30 January 2019).

Tasic, I., Montoro-Sànchez, A. and Cano, M. (2015), "Startup accelerators: an overview of the current state of the acceleration phenomenon", XVIII Congresso AECA, Cartagena.

Teece, D.J. (2010), "Business Models, Business Strategy and Innovation", *Long Range Planning*, Vol. 43 No. 2–3, pp. 172–194.

Thurik, R. and Wennekers, S. (1999), "Linking Entrepreneurship and Economic Growth", *Small Business Economics*, Vol. 13, pp. 27–55.

Torun, M. (2016), "Business Accelerators and Their Differences from Incubators", working paper, available at: https://doi.org/10.13140/RG.2.2.25975.62884.

Tranfield, D., Denyer, D. and Smart, P. (2003), "Towards a methodology for developing evidence-informed management knowledge by means of systematic review", *British Journal of Management*, Vol. 14 No. 3, pp. 207–222.

Wiltbank, R., Read, S., Dew, N. and Sarasvathy, S.D. (2009), "Prediction and control under uncertainty: Outcomes in angel investing", *Journal of Business Venturing*, Vol. 24, p. 3011.

Yin, R.K. (1984), Case Study Research: Design and Methods, 1st Ed., Sage, Newbury Park, CA.

Zhdanova, O.A. and Milyaev, K. V. (2016), "Criteria for the selection of venture projects by the business accelerators", *International Journal of Applied Business and Economic Research*, Vol. 14 No. 14, pp. 785–798.

About the Authors

Carlo Bagnoli is full Professor of Business Policy and Strategy at the Department of Management, Ca' Foscari University of Venice. He received a Ph.D. in Business Economics at Ca' Foscari University of Venice. He was visiting research fellow at the University of Florida. He is Scientific Director of the Innovarea Project funded by the Regional Italian Government. His research interests include knowledge management, competitive strategy, business model innovation. Carlo's research work has been published in various outlets, including the Journal of Business Economics and Management, Industrial Management & Data System, Journal of Management and Governance and Journal of Intellectual Capital.

Maurizio Massaro, Ph. D., is associate professor at Ca' Foscari University of Venice. Before joining academia, he was founder and CEO of multiple consultancy firms. He has been a visiting Professor at Florida Gulf Coast University and Leicester University. His research interests include knowledge management, intellectual capital, and research methods. In 2016 he won the Emerald Literati Award for Excellence as Highly Commended paper in the Journal of Knowledge Management. His last book "Sustainable Development in the Developing World" got the endorsement of US ambassador Andrew Young who wrote the "to the reader" section.

About the Authors

Daniel Ruzza is currently a PhD student at Luiss Guido Carli in the department of Business and Management. He was a research fellow at Ca' Foscari Venice University and he received a M.Sc. in Accounting and Finance at Ca' Foscari University of Venice. His research interests include business model, blockchain, and business model patterns.

Korinzia Toniolo is currently a PhD Student at University of Bologna. She was a research fellow at Ca' Foscari Venice University in the Management Department. She received a M.Sc. in Economics and Management at Ca' Foscari University of Venice. Her research interests include business model and artificial intelligence.