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THE ROLE OF INCUBATORS AND ACCELERATORS IN THE LATIN AMERICAN ENTREPRENEURIAL AND INNOVATION ECOSYSTEMS*

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INTRODUCTION

Over the past decades, diversity in incubation mechanisms has been introduced by public, private, and mixed organizations to support/accelerate the creation and development of entrepreneurial initiatives (Pauwels et al 2016). While the accumulation of knowledge on incubation mechanisms has highlighted their determinants as well as their contributions within the entrepreneurial process (Mian 1997; Hackett and Dilts 2004; Grimaldi and Grandi 2005; Theodorakopoulos et al 2014; Mian et al 2016; Galbraith et al 2019), this accumulation of knowledge also points to the heterogeneity of incubation models (Barbero et al 2014; Klofsten et al 2020). Undeniably, this heterogeneity was shaped by time and space (Autio et al 2014; Mian et al 2016).

Prior literature has paid attention to the incubation phenomenon in North America, the United Kingdom, and European countries (Galbraith et al 2019). It is therefore essential to gain insights into the specific features of incubation/acceleration models in emerging economy contexts (e.g., Asia, Africa, Latin America) where this topic has been limited to best practice reports and policy briefs. The analysis of diversity in entrepreneurship and contexts has been part of an academic discussion during this decade (Welter et al 2017). This discussion takes relevance to the emergence of entrepreneurial and innovation ecosystem literature where support infrastructures (incubators/accelerators) have been playing an essential role in the creation and development of new ventures (Wright et al 2017; Sharma and Meyer 2019; Mosey and Kirkham 2019; Cumming et al 2019; Guerrero and Santamaría-Velasco 2020).

Inspired by the academic discussion, this chapter aims to discuss the role of incubators/accelerators in the configuration of the Latin American entrepreneurial and innovation ecosystem. By exploring the current debates in both academia and policymakers, we identify several patterns in the most representative Latin American economies, as well as discuss challenges/trends that are converging into new research agendas. Based on our analysis, several implications have emerged for academics, university managers, and policymakers.

The chapter is organized as follows. Section 19.2 discusses what we do know about the accumulation of knowledge about incubators and accelerators in Latin America. Section 19.3 introduces the methodological design. Section 19.4 includes the main findings. Section 19.5 discusses the main implications for policymakers. Finally, Section 19.6 presents our conclusions and limitations.

WHAT DO WE KNOW ABOUT THE INCUBATION/ACCELERATION MODELS IN LATIN AMERICA?

Although the limited number of publications, this section presents the accumulation of knowledge about the antecedents, the determinant conditions, and the models of incubators/acceleration in Latin America.

Antecedents: Government Intervention and Triple Helix Configuration in Latin America

The antecedents of the incubation/acceleration models in Latin America are mainly associated with the National Innovation System literature (Lundvall 1992; Nelson, 1993). According to Etzkowitz and Leydesdorff (1997), incubators and accelerators have supported entrepreneurship and innovation infrastructures in which converge different actors such as the government, the industry, and the university.

In Latin America, the creation of incubators has been supported by government intervention during the 1980s and the 1990s (de la Garza 1993; Molina et al 2011; Kantis and Federico 2012). The government intervention emerged as a benchmark for the constitution of national innovation systems, and recently for configuring favorable conditions toward entrepreneurship – nowadays understood as entrepreneurial ecosystems (Vonortas 2002; Kantis and Federico 2012; Guerrero and Urbano 2017). According to Etzkowitz and Brisolla (1999), the benchmark approach presented a trade-off when the intervention was designed without an adequate

adaptation of the policy to the Latin American socio-economic reality. Based on previous research, we observe three patterns in government intervention and the incubators/accelerators. The first pattern was the adoption of a Triple Helix incubation model (government, universities, and industry) to foster new and technology-based ventures. By the influence of international experiences, the Latin American governments fostered the creation of incubators in collaboration with universities and industrial organizations (Medeiros and Atas 1996). In Brazil, the first incubator was founded by research and technological universities (Casanova and Arce 2015; Alba Ortuño 2015). In Mexico, Dutrénit et al (2010) evidenced the channels of interaction between public research organizations and industry.

The second pattern was the implementation of legislation regarding innovation, entrepreneurship, and competitiveness. In Brazil, Barquette (2002) found governmental actions oriented toward the creation of technology-based firms in diverse industrial sectors as technology, electronics, telecommunication, and automatization. Similarly, Guerrero and Urbano (2017) evidenced how the agendas of Mexican administration were oriented to define policies, regulations, and programs to manage innovation and innovation in priority areas like technology, biotechnology, aeronautic, and automotive. These foundational initiatives were the initial step of developing technology transfer, scientific and entrepreneurship laws, and regulations (Herrera et al 2018).

The third pattern was the decentralized management of public resources through agencies or institutes. The decentralization was associated with the creation of hybrid organizations to manage technological/scientific inputs/outputs. Concretely, the national science and technology agencies¹ have supported the decentralization of actions and resources based on the regions' priorities (Guerrero and Urbano 2012, 2017). The national agencies have designed/implemented the incubation/acceleration programs at the country/regional level (Herrera et al 2018), as well as establishing the criteria for categorizing/legitimizing of the incubation infrastructures as an active part of the entrepreneurial ecosystem (Guerrero and Santamaría-Velasco 2020)

Determinants in the Creation of Incubators/Accelerators in Latin America

By adopting the industrial agglomeration theory, Barquette (2002) identified conditions associated with the consolidation of technological incubators in Brazil. Concretely, physical infrastructures, human capital, agglomerations, networks, university-industrial relationships, and public sectors (Barquette 2002). By adopting the intellectual capital and network approaches, Casanova and Arce (2015) found that the determinant of the success of business incubators has been the intellectual capital and network vision. Given the limited access to resources/capabilities in Latin American countries, the network vision is an adequate strategy for accessing/sharing risks, knowledge, resources, and capabilities (Herrera et al 2018; Guerrero et al 2019).

By adopting the ecosystem approach, incubators become a critical element of an ecosystem by nurturing multiple professional services that allow the creation/development of new entrepreneurial and innovative initiatives (Guerrero et al 2017; Guerrero and Urbano 2017). The local/regional ecosystem is also a determinant in the success of incubators/accelerators (Guerrero and Santamaría-Velasco 2020). It implies a mutual and reciprocal relationship between incubators and the entrepreneurial innovation ecosystems (Herrera et al 2018).

Incubators/Acceleration Models Implemented in Latin America

Regarding the entrepreneurial process, Alba Ortuño (2015) argues that the role of incubators in the entrepreneurship ecosystem is considered as part of professional and physical infrastructures that support the initial stages of entrepreneurial activity (incubation) as well as growth stages of new ventures (accelerations). An example has been the Chilean model, which different stages integrate as sensitization (dissemination of the offer of services), pre-incubation (the initial diagnosis and involvement), the incubation (the implementation of programs,

supports, and networks), follow-up (guide the inputs and outcomes across the incubation cycle), and post-incubation (the support offered for achieving growth/internationalization orientations) (Carballo-Barrera and Nichols 2016).

Regarding the entrepreneurial nature, Ramirez et al (2019) found three types of incubators: (1) low-tech or traditional which support entrepreneurial/innovative initiatives from traditional and mature sectors; (2) medium-tech which focuses on sectorial segments as manufacturing, network development, technology and information; and (3) high-tech focused on biotech, pharmaceuticals, and TICs. Also, given the relevance of social entrepreneurship, during the last five years a new segmentation of incubation services oriented to support social initiatives has been observed (Guerrero et al 2017; 2018). In Mexico, university incubators have established specific programs oriented toward incubating/accelerating specific social innovation initiatives in vulnerable communities (Guerrero et al 2017; Guerrero and Santamaría-Velasco 2020). Related to the ownership, in Latin America, incubators have adopted multiple types of ownership including public, private, or mixed (Ramirez et al 2019).

METHODOLOGY

Methodological Design

Given the lack of previous research on incubators/accelerators in Latin America, a contemporary and still unexplored subject, we choose an inductive multiple case study design as a research strategy (Eisenhardt and Graebner 2007). This methodological design has been successfully implemented by previous studies that have explored the accelerator phenomenon in the European Context (see Pauwels et al 2016). We use a theoretical snowball sampling approach (Yin, 2017). Concretely, our sampling approach focused on cases that comply with predefined criteria of selection: (a) incubators/accelerators oriented to small teams that supported them with equity investment, intensive mentoring/networking, highly competitive applications, and Demo Day graduation (Miller and Bound 2011); (b) incubators/accelerators actively involved in the Latin American entrepreneurship ecosystem (Kantis and Federico 2012) and innovation ecosystem (Herrera et al 2018); and (c) incubators/accelerators with international/regional recognition and presence (UBI Global 2019). We identified 12 accelerators/incubators in Latin America that complied with the criteria of selection. We invited them to participate in this study, but only four accepted (one per country).

Data Collection and Data Analysis

Our research settings were four Latin American countries: Chile, Brazil, Colombia, and Mexico. We used primary data (semi-structured interviews) and secondary data (archival data). Regarding the semi-structured interviews, 12 agents involved in the bridge between incubators and entrepreneurial/innovation ecosystems were interviewed during the first half of 2019. Interviews ranged from 1.5 hrs. to 2 hrs. following the confidential agreements (Table 19.1). Regarding the secondary data, we collect information from public reports, internal documents, presentations, and websites. By following the triangulation proposed by Yin (2017), our data analysis evolved the country cases using the archival data available. We then contrasted/complemented the archival data with the interviewee's perceptions.

Table 19.1 Data collection

Country	Interviewee	Secondary data
Brazil	Male incubator manager Local network – ANPROTEC Latin American network - IncubadorasLAT	Public reports Internal documents

Chile	Male incubator manager Local network – CORFO Latin American network – IncubadorasLAT	Incubators/accelerators presentations Websites
Colombia	Female incubator manager Local network – INNPulsa Latin American network – IncubadorasLAT	
Mexico	Male incubator manager Local network - INNADEM Latin American network – IncubadorasLAT	

Source: Author.

THE LATIN AMERICAN INCUBATION/ACCELERATION BACKGROUND

Government Intervention and Configuration of Incubators/Accelerators

Table 19.2 shows the evolutionary trends of governments' intervention during the creation and development of incubators/accelerators in most representative countries in Latin America (i.e., Brazil, Chile, Colombia, and Mexico).

Table 19.2 Policies and programs supporting the creation of incubators in Latin America

Country	Responsible	Programs	Inputs/Outputs
Brazil	Ministry of Science and Technology	1984: Launched the first incubator 1987: National Association of Technology-Based Incubators (ANPROTEC) 1991: Support program for SMEs (SEBRAE) 2009: National Program for the Support of Business Incubators and Technology Parks (Program Nacional de Apoio an Incubadoras e Parques Tecnológicos)	1984: 1 incubator Budget 2009-date: US\$ 10 million 2009-date: 300 incubators
Chile	Government Agency: Production Development Corporation (CORFO)	1939: The creation of CORFO 1992: Launched the first incubator Santiago Innova supported by the municipal government – inspired by the Barcelona Activa incubation model 2001–2005: Program to subsidize the creation/operation of university business incubators (3IE, OCTantis), regional incubation network, the creation of Chile INCUBA (a trade association of business incubators) 2006–2010: CORFO primarily finances all formal Chilean incubators 2010–2014: Start-up Chile (acceleration and scale-up) and incentive model 2014–2018: Diversity and equality in funding (per region, per stage, per mentoring), in physical spaces (co-works, hub, centers), in entrepreneurship (gender, social, young), as well as the creation of corporate accelerators (Blue Box Mexico, SocialLab), and evaluation model (organization, value creation, and performance)	Budget 2003: US\$ 11 million 2003–2008: 27 incubators Budget 2006-to date: US\$ 12 million per year
Colombia	Ministry of Commerce, Industry, and Tourism	1994: National Association of Business Incubators (SNCIE) & Law 344 1996: Technology-based university incubators in Antioquia (National University of Colombia, Antioquia University, EAFIT University, Medellin Municipality, business associations) 1999: Program to subsidize the creation and operation of technology-based incubators 2000: Law 590 SMEs 2006: Law 1450 Entrepreneurship 2009: Entrepreneurship Policy 2011: Law 1450 plus Innovation and competitiveness 2012: Launched iNNpulsa	1994: 1 Incubator 2002–2009: 22 Incubators plus ten innovation nodes 20 Soft Parks

Mexico	National Consul of Science and Technology (CONACYT)	1992: The creation of the Mexican Association of Incubators 2012: National Business Incubation System Network of Technological University Incubators 2012: Law 2013-2018: National Institute of Entrepreneurship (INADEM) coordinated and recognized incubators 2015: Incubators such as co-working spaces 2019: the new administration discontinued INADEM	1992: 14 incubators from the UNAM, IPN, TEC Monterrey 2012: Accelerator and Incubators 2015: New formulas SUM-Start-up Mexico; <i>MassChallenge</i> ; Venture Institute; WAYRA; TECHBA
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Source: Author.

The Brazilian case

Since the 1980s, the Brazilian Ministry of Science and Technology has promoted the creation of technological ventures supported by the first technological incubator (Barquette 2002). Based on international benchmarking, since the 1990s, the Brazilian government promoted several programs oriented to create incubators networks, supporting small and medium-sized companies, as well as the programs which supported specific incubators' initiatives. According to the local network interviewees' perceptions, the incubation system in Brazil has helped in the configuration of the technological entrepreneurship density as well as the configuration of local, regional, and international collaborations with different ecosystems' agents (large international ventures, government agents, small enterprises, investors). The strategic managing of the outcomes from intellectual and technology transfer has been decentralized to a national agent to evaluate the effectiveness of commercialization and university-industry.

The Chilean case

Promoted by the municipality of Santiago, Chile launched the first incubator in the 1990s (Chandra and Medrano 2012). Afterward, in the 2000s, two specific programs were implemented to subsidize the creation of incubators, as well as the integration of the association of Chilean business incubator. Given the needs of strategic management, the Chilean incubator management interviewee recognizes the effectiveness of the decentralization of public resources via the government agency called CORFO. This agency was focused on the allocation of public resources, the design of programs based on the regional gaps/priorities, the formalization/classification of incubators based on their characteristics, as well as the incubators' legitimization within the Chilean entrepreneurial ecosystems (CORFO 2019). Nowadays, networking has been the primary focus of more than 27 incubators constituted within a national association as well as mentoring networks (the interviewed Latin American network agent).

The Colombian case

In the 1990s, the National Association of Business Incubators was created in collaboration with multiple governmental agents, as well as the implementation of a subsidized program to create and operate technology-based incubators (Bulla and Cruz 2004; Peña-Vinces et al 2011). According to the Colombian local network interviewee, the particularity of the business incubation model in Colombia has been the implementation of regulations to support SMEs (Law 590 in 2000), entrepreneurship (Law 1450 in 2006), as well as innovation and competitiveness (Law 1450 plus in 2011). In this vein, the interviewed business incubator manager mentioned different government agencies (INNpulsa) that were created to focus on the entrepreneurs' capabilities and growth strategies (CAF 2015).

The Mexican case

Since the early 1990s, the Mexican government has intervened in the creation of business incubators that promote innovative and non-innovative entrepreneurship. Then, the government decentralized the strategic management of incubators' resources/capabilities to hybrid public agencies to ensure innovation and entrepreneurship (Guerrero and Urbano 2017). In general, the Mexican incubation was represented by public and private university incubators (Molina et al 2011). The most representative cases have been the incubators created by the National University of Mexico (UNAM), the National Polytechnic University (IPN) and the incubator/accelerator system created by the Technologic University of Monterrey (ITESM). Mainly Latin American economies have considered the ITESM case as a best practice for fostering academic entrepreneurship (Cantu-Ortiz et al 2017), graduate entrepreneurship (Guerrero et al 2017; 2018), and entrepreneurial innovation practices (Herrera et al 2018; Guerrero et al 2019). During the last administration (2013–2018), the National Institute of Entrepreneurship was created and focused on coordinating/legitimizing the roles of incubators in the ecosystem (Guerrero and Urbano 2017). As a result, new incubation formulas emerged by the implementation of programs to support the different entrepreneurship stages: nascent, new creation, growth, and consolidation.

Incubators/Accelerators Actors Involved in Entrepreneurial Innovation Ecosystems

Model 1: Incubators/accelerators as a replication of thriving entrepreneurial and innovation ecosystems

In the Latin American context, based on international benchmarking analysis (Table 19.3), governments have replicated successful programs/policies implemented by developed economies (Etzkowitz et al 2005; de Mello and Etzkowitz 2008; Guerrero and Urbano 2019).

Table 19.3 Replicating incubators/accelerators models in Latin America

Incubator/accelerators in developed economies	The replication incubator/accelerators model in Latin America	Adaptability and adoption	Impact
Barcelona Activa (Barcelona, Spain) (Barcelona Activa 2019)	The first Chilean Incubator supported by the municipality of Santiago	Fostering the local innovation development Connecting the ecosystem agents Training and incubation services	Local economy Start-up density and sustainability Employment Replicable models
Y- Combinator (Silicon Valley, California) (Y Combinator 2014)	Start-up Chile (Santiago, Chile) (Start-up Chile 2019)	Acceleration program to attract entrepreneurs over the world Offer: equity and free money Training, mentors, and investors Access to community and networks Working visa and soft-landing Worldwide partners	Spin-offs – the Chilean S Factory that is a pre-acceleration program Survival rate: 54.5% Sales: 691 million US\$ worldwide Capital: US\$ 998 million
Start-up Chile (Santiago, Chile) (Start-up Chile 2019)	Start-up Brazil Start-up Buenos Aires Start-up Peru	Government initiatives inspired by Start-up Chile to promote the emergence and consolidation of ventures that offer innovative/technological products	International projection Scaling-up in LATAM markets Generation of quality jobs

Source: Author.

In the 1990s, the first incubator in Santiago was influenced by European experiences like Barcelona Activa (Chandra and Medrano 2012). Nowadays, in the Chilean context, the local/Latin networks' interviewees have recognized that North American and Israeli experiences have also influenced the configuration of entrepreneurship/innovation ecosystems'

elements. More concretely, Takaoka (2018) explained the influence of the Y Combinator acceleration on the Start-up Chile that is a pre-acceleration and acceleration program launched by the Chilean government to spur investment and attract entrepreneurs. The Start-up Chile's success was replicated in other Latin American countries such as Argentina, Brazil, and Peru.

Model 2: Incubators/accelerators as global hubs

An incubator hub is understood as a central incubator that supports smaller and satellite incubators (Thorburn 1998). The most representative global hub for entrepreneurial innovations has been the Silicon Valley because of its thriving entrepreneurial and innovation ecosystem (Phan et al 2005). In the Latin American context, given the limited enterprises'/markets' capabilities, a global hub is a strategic alternative to scaling-up local incubated ventures into the international markets through their partners. According to the interviewed international network agent, hubs located in Mexico and Chile reduce institutional distance and barriers to entry into the US and Latin American markets, respectively.

We found four global hubs (see Table 19.4). The first one, promoted by Telefonica, Wayra, is a global start-up ecosystem platform that provides cash and business development support thoughtful the world with unique access to government agencies, corporate leaders, investors, serial entrepreneurs, and royalties in the diverse sector (Wayra 2019). The second one, promoted by the social community, SocialLab is the social innovators' global network that focused on the sustainability and scalability of public agendas (SocialLab 2019). According to the interviewed social incubator's managers, this network is an online platform of social problematics and potential solutions with headquarters in Latin American countries. The third one, promoted by CORFO, the Start-up Chile, is a hub oriented to the acceleration and scalability of innovative ventures in Latin America (Start-up Chile 2019). The fourth one, promoted by an investor community, NXTP Labs, has been a pioneer venture capital platform across diverse sectors in Latin America (NXTP Labs 2019). This network provides mentoring and venture capital supports technological new ventures. Given their global presence, the three examples of Latin American hubs have become the most global, connected, and diversified sectorial network for implementing internationalization strategies (the interviewed Latin American network agent).

Table 19.4 Outstanding and influential incubators/accelerators hubs in Latin America

Incubator/ Accelerators hubs	Promoter	Countries	Focus	Portfolio of services	Impacts
Wayra (Wayra 2019)	Telefonica	Argentina Brazil Chile Colombia Mexico Peru Venezuela Europe	They are supporting initiatives in diverse sectors like telecommunications, health, blockchain, big data, artificial intelligence, and others	Funding Consulting Global networking Acceleration Mobility Open innovation	Corporate acceleration: managed by Telefonica in 16 countries Global investment: more than EUR 160 million Start-up rates: more than 400
SocialLab (SocialLab 2019)	Social community	Argentina Chile Colombia Uruguay	Initiatives with massive social impact and sort out problems faced by humankind	Workshops Mentors Boot camps Consultancy Innovation platforms Outstanding networking	Projects: 206 Ideas: 12407 Boot camps: 12 Initial investment: US\$ 876 million Training: 968
Start-up Chile (Start-up Chile 2019)	CORFO	Brazil Buenos Aires Peru	Government initiatives inspired by Start-up Chile to promote the emergence and	Foreign invest attraction The attraction of human capital	International projection Scaling-up in LATAM markets

			consolidation of ventures that offer innovative/technological products	Access to networks Soft-landing Developing global ecosystems	Generation of quality jobs Ecosystems
NXTP Labs (Buenos Aires) (NXTP Labs 2019)	Investors community and corporate partners	Chile Colombia Mexico Uruguay Buenos Aires	Pioneers of the venture capital across diverse sectors (B2B, information, Fintech, Internet Security) in Latin America launched in 2011	Marketing strategy Innovation platform Venture capital platform Technological ecosystem Mentoring	Companies: more than 202 (exits 16, funds 2, 15 co-investors) Additional seed capital: US\$ 1 million

Source: Author.

Model 3: Incubators/accelerators as internationalization nodes

According to Ramirez et al (2019), the association of incubators' networks also reinforced both enterprises'/countries' entrepreneurial and innovative capabilities. Concretely, we identified two Latin American networks. The first one is IncubadorasLAT integrated by 157 incubators located in 11 Latin American countries (IncubadorasLat 2019). The second one is RedLacnet integrated by more than 120 incubators in diverse ecosystems in Latin America. Both networks provide mentoring as well as partnership to apply to projects sponsored by the InterAmerican Development Bank, Asia-Pacific Economic Cooperation, and other international agents. Annually, both networks hosted an annual meeting to discuss the current situation, challenges/opportunities across ventures, incubators, and countries. Therefore, the network could act as an internationalization node for all affiliated and incubated ventures.

RESEARCH AGENDA FOR INCUBATION/ACCELERATION IN LATIN AMERICAN COUNTRIES

What Do We Not Know about the Incubation/Acceleration Models in Latin America?

Our findings show some preliminary insights about incubators, ecosystems, and ventures located in Latin American countries. Nevertheless, the alignment among these three elements has been ignored in the academic discussion.

Regarding the antecedents, there is a general assumption about government interventions based on benchmarking of successful incubators (mostly located in Europe and North America). Our findings showed several incubation patterns adopted by the government via Triple Helix, technology, and innovative programs, or competitiveness policies. Nevertheless, anecdotal evidence suggests unclear outcomes related to these interventions. Future research should analyze the effectiveness of public incentives/programs, as well as the implementation of new measures for capturing outcomes/impacts per US\$ invested (Guerrero and Urbano 2019). Another research opportunity is the analysis of (un)successful replication of innovation practices/modes from developed economies. It implies the determinants of success and failure in the adaptation/adoption of abroad successful practices. Therefore, evolutionary approaches are required to understand the determinants and the outcomes behind each benchmarking strategy. Simultaneously, it is crucial to explore the strategic management of incubators, incubators' hubs, and incubators' networks (Guerrero et al 2019).

Regarding the incubation models, published studies have explored the traditional models of incubation, but little is known about their influence on the configuration of entrepreneurial ecosystems at local, at country, but also at the LATAM region. On the one hand, the exploration of traditional vs. digital platforms will be useful for understanding how incubators not only generate enterprises' capabilities and access to resources but also generate regional capabilities. It implies the analysis of the inverse relationship between incubators and ecosystems using mixed theoretical foundations such as knowledge spillover theory (externalities produced by the incubators), ecosystem approach (the integration of diverse elements to fostering entrepreneurial innovations), and evolutionary approach (time and space determine the

maturity/contribution among participants). It demands longitudinal analysis and new metrics for understanding the role of each ecosystems' actors on incubators and vice versa. On the other hand, previous studies have provided insights into the positive impact of incubation practices on the ventures' internationalization (Engelman et al 2015). In the Latin American context, Chandra, and Medrano (2012) found an active role of incubated ventures in incubation and internationalization, as independent programs. However, incubator's hubs or incubators networks are in the most critical elements across the internationalization of incubated firms. Based on our insights, in Latin American, the incubators working together to support ventures under three pillars. The pre-acceleration based on their local R&D collaborations. The incubation based on their incubations' local and international partners. The acceleration based on open and international collaborations for achieving their market growth, internationalization opportunities, or corporate venturing initiatives based on the development of products among incubated ventures located in diverse countries.

What Are the Main Challenges in the Incubation/Acceleration Models in Latin America?

The first challenge related to the incubation/acceleration models is the legitimizing of their involvement into the ecosystems. There are a few rankings used by Latin American incubators to evaluate their position on the global scope. One ranking is the UBI Global that provides World Benchmarking metrics to evaluate the position of incubators concerning full participants (UBI Global 2019). Another ranking is PRODEM that measures the entrepreneurship ecosystem conditions (one of them is the incubators) in Latin America (PRODEM 2019). However, both rankings are not capturing measurements concerning inputs, outputs, and outcomes of incubators. The implication for policymakers (government and networks) is defining metrics that allow monitoring of incubators' actions.

The second challenge is related to the efficient allocation of public resources. Mostly Latin American governments allocate resources on supporting the early stages of entrepreneurial initiatives (pre-incubation and incubation). It explains how these support programs increase the number of nascent entrepreneurs. However, the transition to the next entrepreneurial stage will depend on innovation and growth orientation (acceleration). It also implies the support of diversity in entrepreneurship. The implication for incubators/accelerators is working together with enterprises and universities to coordinate the allocation of resources based on priorities and needs.

What Are the Main Implications for Incubation/Acceleration's Stakeholders in Latin America?

Several implications emerge from this study. First, for policymakers, the limited public resources demanded their allocation in programs that ensured forceful impacts on entrepreneurs. Many failure experiences have characterized the learning process of Latin American policymakers in terms of incubators/accelerators programs. Based on this learning process, each Latin American country has acquired specific incubation/acceleration capabilities that currently should be re-conducted into a smarted specialization strategy. On the one hand, it implies the continuous evaluation of the implemented programs and follow-up of incubated/accelerated small teams. On the other hand, it implies the development of collaboration agreements among the Latin American governments for supporting the scaling-up of the incubated/accelerated projects. Therefore, the challenge for policymakers is ensuring the effectiveness and the continuity in the allocation of their public resources based on needs and capabilities.

Second, for incubators/accelerators managers, the benchmarking and networking are the most useful practices in the Latin American context. It allows positioning them in the national and international antenna. Similarly, being part of an incubator/accelerator network (e.g.,

IncubadorasLAT) represents a window of opportunities for knowledge transfer, acquisition of capabilities, sharing resources, and improvement of the offered services. Incubators/accelerators are playing a crucial role in the transition into the different entrepreneurship stages. These infrastructures are determinant of the increase/decrease in the discontinuity of small projects across the valley of death. Therefore, the challenge for incubators/accelerators managers is the co-creation/collaboration with multiple agents from the entrepreneurship ecosystem.

Third, for incubated/accelerated projects, both successful and unsuccessful experiences of incubated/accelerated projects are useful in the learning process of new ones. In this view, the success and failure should be considered as part of the evolutionary process of each project. It implies the recognition of strengths and weaknesses at the individual, at the organizational, and at the environmental levels. Therefore, the challenge for small incubated/accelerated teams is the transition into the diverse entrepreneurship stages. It demands the acquisition or improvement of capabilities and resources. In this view, the Latin American ecosystems represent an opportunity to access various supports, but also many barriers that should be exploited with the mentoring of experts.

CONCLUSIONS

This chapter discussed the role of incubators/accelerators in the configuration of the Latin American entrepreneurial and innovation ecosystem. Given the limited accumulation of publications in the Latin American context, we explored the antecedents, determinants, and models of incubators/accelerators in Brazil, Chile, Colombia, and Mexico. By mixing semi-structured interviews and secondary data, our findings show particularities in government intervention, as well as the diversification of Latin American incubators/accelerators. Based on the limitation of resources/capabilities, incubators implement open collaboration actions among local and external partners.

This study has several limitations. The first limitation, given the lack of information in Latin American countries, this study adopted the qualitative approach. This approach allows for an understanding of this phenomenon based on the perceptions and secondary sources. However, this approach does not allow implementing objective metrics. A natural extension of this study should be implementing mixing approaches (quantitative and qualitative). The second limitation is linked with the variables of time and space. Entrepreneurial and innovative ecosystems are dynamic processes. In this vein, future research should explore the role of incubators/accelerators not only across the entrepreneurial stages but also in ecosystem stages. It implies longitudinal information across countries and periods of evolution.

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¹ For further details, please review the well-known examples of National Science and Technology Agencies in Mexico (CONACYT), in Mexico Chile (CONICYT), in Colombia (Colciencias).