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**To cite this article:** Esin Yoruk, Jumana Nalakam Paramba, Paul Jones & Aidin Salamzadeh (30 Mar 2026): Business-incubation as a catalyst for start-up success in emerging markets: Entrepreneurial bricolage versus dynamic capabilities, Journal of Small Business Management, DOI: [10.1080/00472778.2026.2645919](https://doi.org/10.1080/00472778.2026.2645919)

**To link to this article:** <https://doi.org/10.1080/00472778.2026.2645919>



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Published online: 30 Mar 2026.



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# Business-incubation as a catalyst for start-up success in emerging markets: Entrepreneurial bricolage versus dynamic capabilities

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## ABSTRACT

This study examines the role of business incubators in supporting start-ups in emerging markets, where resource limitations require entrepreneurs to either rely on entrepreneurial bricolage or invest in developing dynamic capabilities in their early stages. Although prior research has explored incubators, less attention has been given to how they help start-ups move beyond static short-term bricolage toward building long-term dynamic capabilities under resource-constrained conditions. Using data from 403 start-ups, the study tests the moderating effect of incubator support on the relationship between bricolage, dynamic capabilities, and venture performance. The findings suggest that incubators significantly strengthen the positive impact of dynamic capabilities on start-up performance compared to that of bricolage. In emerging markets, incubators thus enable start-ups to cultivate adaptive, growth-oriented capabilities rather than relying solely on static bricolage practices. The study offers implications for policymakers, founders, and incubator managers seeking to promote sustainable start-up development and scaling.

## KEYWORDS

Entrepreneurial bricolage;  
dynamic capabilities;  
business incubation;  
start-up; emerging markets;  
India; Kerala Startup Mission

## Introduction

Start-ups are acknowledged as significant contributors to a country's economy; however, they often encounter persistent challenges due to liabilities of newness and relatively small scale. These challenges include difficulty in competing with established businesses, securing funding, and a lack of experienced human capital (Banka et al., 2024; Salamzadeh & Kesim, 2015; Sudaryana et al., 2024; Yu & Wang, 2021). Moreover, the challenges start-ups face can vary substantially in emerging and advanced markets due to contextual differences (Welter, 2011; Welter et al., 2018), such as resource availability, levels of economic development, cultural and societal

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norms, market opportunities, and functioning of entrepreneurial ecosystems (Goletsis et al., 2025; Kirzner, 1997; Mason & Brown, 2014; Wurth et al., 2021).

This contextual variation is visible in contrasting outcomes between advanced and emerging markets. In developed economies such as Germany, where resource accessibility is relatively uniform across firms, Schwartz (2013) found no significant survival advantage for incubated start-ups over their unincubated peers. Start-up challenges, however, are non-trivial issues in emerging markets, where resources are scarce and even less available to new ventures due to market inefficiencies and institutional voids that impede the effective functioning of the product, capital, and labor markets (Khanna et al., 2010). Recent research has elaborated on how to overcome voids in weak institutional settings. Leveraging market power, strategic resources, and networking ties are essential for accumulating and enhancing competencies in start-ups in weak institutional contexts (Amankwah-Amoah et al., 2019). Digital entrepreneurship, characterized by lower initial capital investment, can leverage bricolage-related deficiencies exacerbated by institutional voids in emerging markets, enabling new ventures to scale more effectively (Lanivich et al., 2025). Not only formal institutions such as legislations for economic and financial opportunities, but also informal institutions such as entrepreneurial culture and social capital shape the entrepreneurial ecosystem and influence whether start-ups prosper (Goletsis et al., 2025).

Consequently, start-ups in emerging markets often are stuck between relying on resource bricolage—creatively improvising and making do with what is available (Baker & Nelson, 2005; Witell et al., 2017)—and attempting to cultivate dynamic capabilities (Matricano, 2025; Teece, 2014, 2020; Teece et al., 1997), a more costly and risky undertaking during their early lifecycle. Many scholars have suggested that new firms, in resource-constrained contexts, should initially prioritize bricolage, as early-stage failures frequently stem from the inefficient accumulation of idle or underutilized resources (Baker & Nelson, 2005; Salunke et al., 2013; Senyard et al., 2014; Szathmári et al., 2024). Bricolage allows entrepreneurs to allocate scarce resources to maximize value creation while maintaining cost efficiency (Senyard et al., 2014). Bricolage is also observed to facilitate entrepreneurs in coping with continuously changing uncertain circumstances (Ning et al., 2020). As such, Sivathanu and Pillai (2020) argued that, in the emerging market context, where resources are scarce and circumstances are unpredictable, entrepreneurial bricolage can substitute for dynamic capabilities and is crucial for the scalability and sustained performance. Extant research often positions dynamic capabilities as characteristics that evolve over time in advanced-economy firms, making them more difficult and costly to develop in emerging markets (Sivathanu & Pillai, 2020). Thus, in developing contexts, an early

emphasis on bricolage capabilities may be more beneficial to start-up progress (Guo et al., 2016; Magobe et al., 2024; Yu et al., 2020).

This study, however, argues that this perspective overlooks the role of entrepreneurial support infrastructures—particularly business incubation—in shaping capability development trajectories in emerging markets. Dynamic capabilities are a way of coping with environmental changes as new firms grow (Teece, 2014, 2020). For start-ups, these are trial-and-error approaches developed through progressive management of resources as well as the iterative problem solving (Sumedrea, 2013). Thus, dynamic capabilities advance over time, whereas bricolage capabilities are static, with a focus on the status quo. Incubation centers can provide structured environments in which ventures gain access to expert guidance, knowledge-exchange platforms, shared infrastructure, and networks that may accelerate the development of dynamic capabilities. In doing so, incubation may help young firms shift from short-term improvisation to longer-term strategic capability building, enabling sustained growth paths.

Thus, this study aims to address existing gaps around the interplay between the concepts of bricolage, dynamic capabilities, and incubator support in start-up performance in emerging market entrepreneurship. Building on the extant literature on entrepreneurial bricolage and dynamic capabilities, we examine the role of incubation support in fostering these capabilities in emerging-market start-ups. Specifically, the study investigates whether incubation accelerates the development of dynamic capabilities and prevents ventures from becoming constrained by short-term resource improvisation. To address this, we ask:

*How do entrepreneurial bricolage and dynamic capabilities impact the new venture performance, and whether business incubation moderates these relationships in the context of emerging markets?*

We examine this question in two stages:

- (1) by assessing the effects of entrepreneurial bricolage and dynamic capabilities on start-up performance; and
- (2) by evaluating the moderating influence of business incubation on the relationships among entrepreneurial bricolage, dynamic capabilities, and venture performance.

Our contributions are twofold. First, we clarify the distinct performance implications of bricolage and dynamic capabilities for start-ups in emerging markets, offering insights into how ventures balance short-term improvisation with long-term capability development. Second, we advance understanding of business incubation by demonstrating its role in shaping capability

development pathways, showing whether and how incubation accelerates dynamic capability accumulation and reduces dependence on bricolage.

## **Theoretical background and hypotheses development**

### ***Entrepreneurial bricolage and new venture performance***

The concept of bricolage was coined by French social anthropologist Levi-Strauss (1966), who defined it as the process of creating something new by applying whatever is at hand as a way of mitigating resource constraints and environmental uncertainty. Levi-Strauss used it to mean making the most of the available resources by improvisation (Garud & Karnøe, 2003; Senyard et al., 2014). Originated in innovation studies, recently the idea of bricolage has been applied across several disciplines and has been widely accepted and developed by scholars within the realms of entrepreneurship literature (Davidsson et al., 2017; Fu et al., 2020; Li & Yu, 2023; Martínez et al., 2023; Tehseen et al., 2024), paving the way for the concept of entrepreneurial bricolage—that is, specifically the exploitation of and making do with scarce resources in new ventures. Bricolage is an especially important issue in the emerging markets with significant resource constraints and institutional voids, where large firms can have access to the scarcest resources through political links at the expense of new ventures or disadvantaged segments of small business owners (Cavusgil, 2021; Khanna et al., 2010).

Despite the shared focus on using and harnessing available resources as a common theme, scholars have defined entrepreneurial bricolage in different ways. For example, Baker and Nelson (2005) provided a conceptualization of bricolage from a process perspective by which entrepreneurs use whatever resources are available to address challenges and opportunities in the environment. Duymedjian and Rüling (2010) extended the concept of entrepreneurial bricolage as making do by developing resources at hand and recombining them for new purposes. In a recent contribution, Francisco (2025) described bricolage as a resource mobilization approach that is required throughout the entrepreneurial process rather than a one-time action or tactical approach, emphasizing the continuity of the bricolage process. Liu and Zhang (2024) extended bricolage to business model literature and defined it as an effective tool for business model innovation for a trial-and-error approach in generating sustainable performance. Tehseen et al. (2024) contended that entrepreneurial bricolage navigates technological disruptions, resource constraints, and evolving societal needs and is particularly important in the context of emerging and developing markets. Recent contributions in entrepreneurial bricolage literature have highlighted that there is a consensus that bricolage

plays an important role in entrepreneurship research for firms to take proactive actions in the changing environment, although some studies have argued that entrepreneurial bricolage is also an important approach in contexts of taking strategic decisions about resource management practices (Xiaobao et al., 2022; Yu et al., 2020). Overall, the process of bricolage can be explained as the strategic frame for innovation and particularly resilience in the resource-constrained environment (Mateus & Sarkar, 2024).

Entrepreneurial bricolage has diverse applications in entrepreneurship. Extensive literature on entrepreneurship and start-ups has concentrated on the application of entrepreneurial bricolage in sustainable performance (Sivathanu & Pillai, 2020), contribution to service innovation (Witell et al., 2017), and different entrepreneurial processes (Vanevenhoven et al., 2011). Prior studies have also highlighted that bricolage applies to social entrepreneurship activities, which is critical to cope with the resource-constrained environment and face social challenges (Janssen et al., 2018). Furthermore, entrepreneurial bricolage has also been linked to the agro-food sector. By applying bricolage, entrepreneurs can innovate with limited resources, accessing digital platforms and social media to improve efficiency, reach new customers, and enhance performance (Bowen & Morris, 2023; Lanivich et al., 2025).

Additionally, bricolage can take different forms. Baker et al. (2003) introduced the concept of “network bricolage,” in which entrepreneurs rely on professional and informal networks as improvised strategy for harnessing and exploiting resources, usually in the context of emerging markets. The effectiveness of network bricolage depends on the type of network ties, in which strong ties are created from close contacts and weak ties from professional bodies (Chang et al., 2024). Start-ups and new ventures typically employ both types of ties to cope with the changing business environment (Zheng et al., 2020). Academic literature generally considers bricolage with close constructs such as effectuation and improvisation (Lanivich et al., 2025; Mateus & Sarkar, 2024). The concept of improvisation is based on the idea that start-ups and new ventures are taking quick actions to change conditions and problem-solving methods (Baker et al., 2003). Improvisation further highlights start-ups to respond to unforeseen changes or difficulties immediately, without requiring lengthy planning processes (Li & Yu, 2023).

Hence, the main purpose of bricolage activities is to solve the acute problem that exists, through an improvisational approach based on an iterative and reflective sense-making manner (Baker et al., 2003; Senyard et al., 2014; Weick, 2009). This strategic improvisation hinged in bricolage activities mostly aims to adapt to changing market conditions with no long-term direction or “vision” (Ferneley & Bell, 2006) by being confined into the static status of single actor organizational activity (Li & Li, 2025). In that sense, bricolage

activities abide by the status quo over time and do not aim to evolve into pathbreaking routes for the start-up (Garud & Karnøe, 2003; Reypens et al., 2021)

Overall, bricolage is essentially a static concept that is not concerned with progressive development of capabilities but is somewhat focused on sustained capabilities so as to maintain firm survival with sustainable performance in the case of start-ups (Sivathanu & Pillai, 2020; Nor-Aishah et al., 2020). Similarly, Fu et al. (2020) and Wu et al. (2024) observed that the performance of new ventures in the emerging markets lies, for instance, not only in business model innovation and market orientation but also in the ways they use their limited resources for addressing resource constraints. Yet, the nature of bricolage-related capabilities—such as actively addressing resource scarcity, making do with what is available, and improvising when recombining resources—is important to generate sustained performance and firm survival (Baker & Nelson, 2005; Linna, 2013; Witell et al., 2017). Based on the above discussion on entrepreneurial bricolage, we propose the following hypothesis:

*Hypothesis 1: Entrepreneurial bricolage positively contributes to new venture performance in the emerging market context.*

### ***Dynamic capabilities and new venture performance***

Dynamic capabilities are essential to an organization's ability to build and further develop technological and organizational capabilities, allowing firms to adapt effectively to rapidly changing environments (Cristofaro et al., 2025; Teece et al., 1997). These competencies are considered as an organization's primary tool for understanding shifts in market, technological, and cultural contexts. Moreover, dynamic capabilities manifest themselves in proactive actions to exploit firm resources in innovative ways, which differ from ordinary competencies that represent the firm's resources but are used routinely (Teece, 2007). To gain and develop dynamic capabilities, a firm needs widely available resources and should not be concerned about resource constraints, as they demand a higher-level activity than that of ordinary capabilities. Teece (2014, p. 331) explained this in the example of the food industry, in which dynamic capabilities are about figuring out new products to put on the menu, new operating hours (e.g., late night), and new locations (central versus suburban) that need readily available resources, whereas ordinary capabilities involve monitoring key performance indicators, training systems, motivation, and so on.

Teece's (2014) conceptualization of firm-level dynamic capabilities evolves by harnessing sensing, seizing, and reconfiguring of opportunities and/or resources available. Sensing capabilities refer to a firm's ability to extract

signals from the market and understand customer demands, technological disruption, and competitive landscapes (Khan et al., 2020). Academic literature has also identified the role of sensing capabilities in contributing to firm performance (Forrest & Liu, 2021) and sustainable innovation (Khan et al., 2020; Sarfo et al., 2025). For instance, Sarfo et al. (2025) demonstrated how exploitative search activities (i.e., uncovering existing solutions to overcome firm constraints) and exploratory search activities (i.e., seeking novel ideas to address internal innovation gaps; see Billinger et al., 2021) in the sensing phase of dynamic capability formation result in new product development leading to environmental performance in the context of the emerging market of Ghana. Whereas the sensing activities in the emerging market context initially focus on finding solutions with the available resources, once working solutions are brought forward, the next stage focuses on developing the novel idea.

The second phase of dynamic capability accumulation is seizing, which involves arranging resources effectively to grasp opportunities to implement the novel idea. The capability of sensing and seizing is interrelated; whereas the former focuses on extracting knowledge for identifying opportunities, the latter concentrates on acquiring new knowledge for finding new business solutions or product development activities (Min & Kim, 2021). “Monitoring” is the primary activity required for performing both sensing and seizing (Engelmann, 2023).

Finally, reconfiguring capabilities is the firm’s ability to transform its resources, actions, and competencies to cope with changing market conditions and foster long-term sustainability (Teece, 2014). Firms require abundant resources to improve their dynamic capabilities over time (McKelvie & Davidsson, 2009). Moreover, in the context of emerging markets, accumulating and exploiting dynamic capabilities requires increased effort in which resources are limited compared to those of advanced markets (Malik & Kotabe, 2011). These extra efforts may take the form of reverse engineering, whereby externally acquired machines/technologies are disassembled into their components (Kogut & Zander, 1992) to accumulate capabilities within the imitation to innovation route (Kim, 1997). Emerging market examples of such technological capability accumulation largely driven by firm in-house research and development activities under resource-poor contexts have been widely investigated by Kim (1997) in South Korea’s historical technological catching up process, by Figueiredo (2002) and Figueiredo et al. (2021) for Brazil, by Yoruk (2011) for Turkey, and by Ariffin and Figueiredo (2004) for Malaysia. The incubating process—which is a widely used tool in many developing countries to encourage the establishment of new ventures—is taken in our study to assess its enhancing effects on bricolage and dynamic capabilities.

All in all, dynamic capabilities are found to facilitate new venture growth through innovation by combining technological and market competencies and

building a scalable business model (Schoemaker et al., 2018; Teixeira et al., 2021). Understanding and pursuing market dynamics is an essential element in accumulating dynamic capabilities, as the survival—and, most importantly, growth—of a start-up heavily depends on the sensing and seizing of customer demands (Pigola et al., 2022). Corvello et al. (2023) demonstrated how large corporations collaborate and support start-ups as a means to drive innovation by exploring new market opportunities and gaining a competitive edge through dynamic capabilities. Thus, by focusing on the ability to sense, seize, and reconfigure, dynamic capabilities ensure firms understand and cope with changes, thereby converting uncertainty into a competitive advantage (Teixeira et al., 2021).

Therefore, dynamic capability accumulation and implementation demand a different set of skills from those of the bricolage process. Firms with dynamic capabilities can thrive and grow more, whereas firms confined to bricolage due to resource-constrained environments and having to do with improvisation strategies grow at lower rates—although bricolage is important in triggering dynamic capabilities in moderately resource-poor environments (Mrożewski & Dudziak, 2025). Yet, both processes are influential for a firm's performance. Based on these, regarding the relationship between dynamic capabilities and firm performance, we postulate:

*Hypothesis 2: Dynamic capabilities positively contribute to new venture performance in the emerging market context.*

### **Business incubation support as moderator**

Because resources are incessantly restricted in the emerging market context, policy tools are important in supporting start-ups to enhance their capabilities in technological, market, and organizational domains (Theodoraki et al., 2020; Voisey et al., 2006). One such policy tool is start-up or business incubators.

Business incubation centers are unique institutional arrangements that offer shared office space and business assistance in a supportive environment conducive to growth while minimizing the risk of failure in start-ups (Braun & Suoranta, 2025). The first business incubator was established at the Batavia Industrial Centre in New York in 1959 (Sohail et al., 2023).

Mian (1994, 1997) specifically explored university incubators for their role in supporting technology-based startups, which are similar to today's university spin-offs. However, the impact of incubators remained largely unexplored until the late 1990s, when it was popularized again by Hackett and Dilts (2004), who emphasized that business incubation is not merely about providing office space but involves becoming part of a network of agents or actors in the incubation center and in the surrounding ecosystem—including

incubation managers, government bodies, professional organizations, and universities—working together to nurture early-stage ventures and ready them for scaling up through ensuring that the start-ups gain certain capabilities. Comparing the United States and South Korea, Lee and Osteryoung (2004) identified four critical success factors in incubator performance that are: goal/strategy incubating services, such as technology transfer, financial support and consulting, business and law consulting; and entrepreneurial education, such as physical/human resources and internal/external networking.

Today, business incubation is perceived as a powerful policy tool to overcome the liabilities of newness and smallness by implementing unique strategies that help firms become competitive, profitable, and sustainable (Amezcuca et al., 2011). Generally, business incubation centers aim at attaining objectives such as fostering a climate of entrepreneurship (Thomas & Ki, 2020), fostering technology development (Theodoraki et al., 2020), increasing university–incubation–firm–government interaction (Hassan, 2020), and development of human and social capital (Tötterman & Sten, 2005).

Most importantly, business incubation literature stresses the concept of “networks”—that is, business incubators create both internal and external networks for harnessing resources and accelerating bi-directional flow of knowledge between the parties (Antunes et al., 2021; Lee & Osteryoung, 2004). For instance, Wu et al. (2020) observed that the internal network of business incubators enhances co-production behavior by facilitating interaction and joint efforts among new ventures within the same incubator. This collaboration promotes the sharing of knowledge and resources, which in turn extends to successful external networking, in which—unlike traditional incubators that focus on shared office space and assistance—network-focused incubators concentrate on an interconnected system in which start-ups can access resources, expertise, and social capital (Bøllingtoft & Ulhøi, 2005; Gao et al., 2021). Today, university incubators also embrace networking activities, in which collaborative initiatives between start-ups and university incubation further enhance the exchange of ideas and promote international acceptance (McAdam & Marlow, 2008). University and business incubation centers were established to provide various forms of support to newly established ventures, especially in the form of knowledge transfer, incubation space, R&D services, and connecting with various financial investors (Theodorakopoulos et al., 2014).

The extant literature has even developed business incubation models to specifically identify the processes for start-up support. The first model of the business incubation process was developed by Campbell et al. (1985). Their model proposes four value-added activities, such as need diagnostics, monitoring, access to investment, and networking. After completing these activities, start-ups graduate from incubation centers. However, this model

has been criticized for its lack of attention to the external environment, and Smilor (1987) developed another model for the effect of external environment-related factors contributing to tenants' performance. Building on that, Hackett and Dilts (2004) further developed the concept of business incubation for how external incubation inputs like funding, infrastructure, and networks are converted into sustainable business practices. Their model also consists of a selection process of start-ups, mentoring, and providing resources, which in turn helps the start-up graduate from the incubation facilities. The Hackett and Dilts (2004) model also puts the emphasis on the incubation period growth rate and the financial performance of the start-up at the time of graduation from the incubator. All in all, business incubation is a complex policy tool that has external and internal determinants, as well as the quality of tenants at the entrance to the incubator. The external determinants are closely linked to resource endowments of the geographical context.

Although business incubation support has been widely studied (Allen & Rahman, 1985; Bergek & Norrman, 2008; Hewitt & Van Rensburg, 2020; Shepard, 2013; Voisey et al., 2006, 2013), there is still a research gap existing around the moderating role of business incubation on the connection between firms' resources and new venture performance. Particularly when the resources are limited, the efforts put into business incubation to support either bricolage or dynamic capabilities of firms do matter. We argue that business incubation is crucial as an enhancing entity to increase dynamic capabilities and bricolage processes in a start-up through the wide range of services and activities provided in the incubator. Newly established ventures face resource constraints, difficulty in attracting investors, and scaling their ventures (Albort-Morant & Oghazi, 2016), and this effect is even stronger in the emerging markets. In such situations, in emerging markets with incubator policies, start-up firms always strive to attain their competitive position through the advice received from the experts in the business incubation centers.

In addition, start-up firms incubated in business incubation centers have straightforward access to networking with other start-up communities through which they can reduce resource constraints and access more resources to develop dynamic capabilities (Ebbers, 2014). This prompts us to argue that business incubation enhances new venture performance and acts as a moderator to enhance the effect of bricolage and dynamic capability activities on venture performance. In the context of emerging markets, especially for new ventures, it is difficult to develop either bricolage or dynamic capabilities on their own. Recently, business incubators have been extensively used as policy tools to encourage start-up formation in emerging markets (Scaramuzzi, 2002; Gao et al., 2021; Leitao et al., 2022). Therefore, business incubators are effective platforms to enhance outcomes from start-up

bricolage and dynamic capability processes. Based on these arguments we propose the following three hypotheses:

*Hypothesis 3: Business incubation positively contributes to new venture performance in the emerging market context.*

*Hypothesis 4: Business incubation moderates the relationship between entrepreneurial bricolage and new venture performance in the emerging market context.*

*Hypothesis 5: Business incubation moderates the relationship between dynamic capabilities and new venture performance in the emerging market context.*

## Methods

### Research context

Rooted in the argument that entrepreneurship is shaped by the context in which it is embedded—that is, historical, temporal, institutional, and industrial and market, spatial, and social contexts (Welter, 2011; Zahra et al., 2014)—this article considers the emerging market context as an important aspect of entrepreneurship activity, especially because the studied context is India, an emerging market. Moreover, nested in this emerging market context of India, this study investigates start-ups that are part of the unique case of Kerala Startup Mission<sup>1</sup> (hereafter KSUM).

An emerging market is defined as an economy displaying four characteristics: (1) an intermediate income level—that is, usually a middle-income economy, as categorized by the World Bank by the level of gross national income per capita<sup>2</sup>; (2) high and sustained growth of the economy, at least in the last decade, that facilitates catching up of a country with advanced countries (Cavusgil et al., 2021; O’neill, 2011); (3) weak institutions, but also institutional transformations taking place (Meyer & Peng, 2016; Meyer et al., 2009); and (4) politics matter to markets (Cavusgil, 2021). Under the circumstances of an emerging economy, resources are scarce and constrained (Gaur et al., 2014; Lim et al., 2016). Welter (2011) argued that the context provides entrepreneurs with opportunities or challenges and sets boundaries for their actions. Therefore, an emerging market context with institutional voids and regulatory uncertainties has implications for the availability and allocation of resources, market efficiency, and available support for new ventures (Amankwah-Amoah et al., 2019; Hoskisson et al., 2013). Under unique circumstances, the context can provide ample entrepreneurial opportunities for

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<sup>1</sup><https://startupmission.kerala.gov.in/>

<sup>2</sup><https://ourworldindata.org/grapher/world-bank-income-groups>.

businesses (Welter, 2011; Welter et al., 2018, 2019; Zahra et al., 2014). One such unique circumstance is observed in the case of KSUM in India.

KSUM is a public-private partnership (PPP) program for promoting entrepreneurship and building a start-up ecosystem through start-up incubation support in the Kerala region of India. It is led by a government agency but operates by partnering with private actors to build incubators. KSUM was established in 2006 as a Technopark focused on providing support to technology start-ups, primarily in digital technologies. In 2011 KSUM launched Startup Village, India's first PPP in telecom incubators with private telecom companies, and not-for-profit industry organizations such as Internet and Mobile Association of India (IAMAI) and NASSCOM ((National Association of Software and Services Companies) to drive digital transformation and mentoring of start-ups. As of January 2026, KSUM has a network of around 63 incubators, with nearly **1 million square feet** of incubation space that have hosted more than 7000 start-ups with many graduations. Overall, 63 incubators are specialized particularly in STEM areas, i.e. ICT, AI, health technologies, automation, robotics, biotechnology, software design, agritech, fintech, etc. Currently, types of funds the program provides to start-ups range from seed funding, innovation grants, R&D grants to patent reimbursements encouraging and supporting innovation-driven growth.

During its first phases, KSUM aimed to provide access to bank financing for start-ups as well as incubator support and generated significant employment opportunities (Korreck, 2019; Mungila Hillemane, 2020). Over the past decade, Indian start-ups have emerged as a dynamic and vital component of the Indian economy, as a result of this wide-ranging program (Jha, 2018; Korreck, 2019; Dinesh & Sushil, 2019). Recent research also suggests that the success of Indian start-up communities is driven by the intellectual capital of team members and networking that is delivered mostly in the start-up incubators located throughout India (Nigam et al., 2020). Despite some success in start-up formation evident in increased numbers of start-ups (Shameera & Vennila, 2022; 2025), the scaling up of KSUM start-ups remains a challenge (Godha et al., 2025) and has yet to be assessed.

## Sample

The population of the study comprises start-ups that are registered in the Kerala Startup Mission in India and have a unique registration (DIPP) number.<sup>3,4</sup> Start-ups can be recognized only when they are

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<sup>3</sup>In the Indian context, start-ups are defined by Department of Industries and Internal Trade (DPIIT), as any venture, incorporated as a private limited company, partnership firm, or limited liability partnership (LLP). A start-up should be less than ten years old from the date of its incorporation and must have an annual turnover not exceeding INR 100 crore in any financial year.

<sup>4</sup>See <https://startupmission.kerala.gov.in/>

registered as private limited companies, limited liability partnerships, or partnership firms whose annual turnover is less than INR 100 crores (*1 billion Indian Rupees*) and whose life of the venture is less than 10 years. The primary data were collected by dividing Kerala into three geographical areas: the central region, the northern region, and the southern region. A list of start-up companies by region was formulated based on details available on the Kerala Startup Mission website (As per Kerala Startup Mission’s official records, there were approximately 3,600 active start-ups in Kerala at the time of data collection in 2023). Probability sampling was applied in the study, and the respondents were chosen based on the start-up founders incubated and unincubated in various incubation centers. A structured questionnaire was sent to founders and cofounders of 600 start-ups in 2023; 467 respondents returned the questionnaire. After cleaning up the data from incomplete and non-credible answers, the final sample size of 403 was achieved, with a full response rate of 67.2 percent. This amounts to around 11.2 percent of 3,600 start-ups operating in the Kerala region at the time of data collection in 2023.

Table 1 provides information on the characteristics of the sample. Almost 70 percent of the start-up firms are registered as private limited companies, and the remainder are registered as either LLP or partnership firms. Firm size is determined based on the number of employees working in the business, and it is inferred that the majority of start-ups in the sample have fewer than 50 employees (56 percent), and 19 percent have more than 100 employees. Table 1 also explains that the sector to which most of the start-up firms belong in Kerala is the service sector (60 percent), whereas 25 percent belong to the manufacturing sector. Finally, start-ups incubated in business incubation centers account for 60 percent, whereas 40 percent are unincubated. This ensures that the dataset is not biased toward incubated businesses only.

**Table 1.** Sample characteristics.

| Characteristics     |                 | Frequency | Percentage (%) |
|---------------------|-----------------|-----------|----------------|
| Form of ownership   | Private limited | 278       | 69             |
|                     | LLP             | 62        | 15.4           |
|                     | Partnership     | 63        | 15.6           |
| No of employees     | Fewer than 50   | 224       | 55.5           |
|                     | 50–100          | 103       | 25.5           |
|                     | More than 100   | 76        | 19             |
| Sector              | Service         | 241       | 59.8           |
|                     | Manufacturing   | 102       | 25.3           |
|                     | Other           | 60        | 14.9           |
| Business incubation | Yes             | 242       | 60             |
|                     | No              | 161       | 40             |
| Total               |                 | 403       | 100            |

### **Data collection**

The data-collection process involved the implementation of a survey questionnaire designed to operationalize the concepts of entrepreneurial bricolage, dynamic capabilities, business incubation, and new venture performance. The questionnaire was split into two parts. The first part aimed to gain an understanding of start-up characteristics, such as the form of ownership, number of employees, age of the firm, and incubation characteristics. The second consisted of a 10-point rating scale to quantify the constructs. Measurement scales for entrepreneurial bricolage (Senyard et al., 2014; Yu & Wang, 2021), dynamic capabilities (Wu, 2007), business incubation (Thomas & Ki, 2020), and new ventures' economic performance (Sivathanu & Pillai, 2020) were adopted from the existing literature.

In addition, for compatibility with the Indian context, prior to implementing the actual survey, Indian academic and industry experts were asked to check the questionnaire for the appropriateness of the wording in the survey and to provide any missing issues in the survey. Based on their comments, minor modifications were made to improve the clarity of statements used in the study. Experts also suggested refining certain terminologies to understand the operational context of start-ups in the Kerala region. In total, three out of the initial 19 items were rephrased to maintain readability and contextual suitability. The three items for measuring start-up performance were rephrased in the following manner to match the fourth item statement in measuring firm performance:

- P1: Our sales are growing every year. → Our firm was satisfied with its annual sales.
- P2: Our growth is profitable. → Our firm was satisfied with its net profits.
- P3: Our market share is increasing. → Our firm was satisfied with its market share.

### **Operationalization of constructs**

The constructs are operationalized using the 16 item statements presented in Table 2. Initially, we had 19 item statements. Bricolage was measured by seven items; however, three items were removed due to low factor loading—that is, below 0.5.<sup>5</sup>

The measurement model begins with an assessment of reliability, validity, and unidimensionality measures. According to the conventional measures, the scales are statistically valid. Cronbach's alpha values are

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<sup>5</sup>These three items read, "We use any existing resource that seems useful to respond to a new problem or opportunity," "By combining our existing resources, we tackle a surprising variety of new challenges," and "When we are faced with new challenges, we put together workable solutions based on our existing resources."

**Table 2.** Construct uni-dimensionality, reliability and validity.

| Constructs                | Items | Indicators   | Min | Max | Average | Factor Loading | CR    | AVE   | C-Alpha |
|---------------------------|-------|--|-----|-----|---------|----------------|-------|-------|---------|
| Entrepreneurial bricolage | EB1   | We are confident in our ability to find workable solutions to new challenges by using our existing resources.                      | 1   | 10  | 3.81    | 0.843          | 0.917 | 0.736 | 0.913   |
|                           | EB2   | We deal with new challenges by applying a combination of our existing resources and other resources available to us at a low cost. | 1   | 10  | 4.01    | 0.931          |       |       |         |
|                           | EB3   | When dealing with new problems or opportunities, we take action by assuming that we will find a workable solution.                 | 1   | 10  | 4.57    | 0.864          |       |       |         |
|                           | EB4   | We gladly tackle a wider range of challenges than others with our resources would be able to.                                      | 0   | 10  | 4.52    | 0.791          |       |       |         |
| Dynamic capabilities      | DC1   | Our team members possess sufficient resource integration capability.   | 0   | 10  | 8.53    | 0.682          | 0.857 | 0.601 | 0.847   |
|                           | DC2   | Resource reconfiguration capability of the team members is high.   | 0   | 10  | 8.85    | 0.803          |       |       |         |
|                           | DC3   | Our team members learn from the environment.   | 0   | 10  | 8.93    | 0.786          |       |       |         |
|                           | DC4   | Our ability to respond to the rapidly changing environment is high.  | 1   | 7   | 5.82    | 0.824          |       |       |         |
| Business incubation       | BI1   | Business incubators offer managerial and technical assistance.   | 0   | 10  | 3.18    | 0.904          | 0.943 | 0.806 | 0.943   |
|                           | BI2   | Business incubators offer R&D activities/product development assistance.   | 1   | 10  | 3.92    | 0.867          |       |       |         |
|                           | BI3   | Business incubators help with making tie-ups with corporate/industry connect.  | 1   | 10  | 3.17    | 0.922          |       |       |         |
|                           | BI4   | Availability of financial and physical resources at liberal terms in business incubators.  | 1   | 10  | 3.62    | 0.896          |       |       |         |
| Firm performance          | P1    | Our firm was satisfied with its market share.  | 0   | 10  | 4.89    | 0.593          | 0.836 | 0.567 | 0.823   |
|                           | P2    | Our firm was satisfied with its annual sales.  | 0   | 10  | 8.42    | 0.866          |       |       |         |
|                           | P3    | Our firm was satisfied with its net profits.   | 0   | 10  | 8.66    | 0.671          |       |       |         |
|                           | P4    | Our firm was satisfied with its returns on assets.   | 0   | 10  | 8.41    | 0.845          |       |       |         |

above 0.7, suggesting an excellent fit (Anderson & Gerbing, 1988; Nunnally, 1978). Regarding the unidimensionality of the constructs, the factor loadings of items are above 0.5 (Hair et al., 1998). For convergent validity, all constructs met the threshold value of above 0.7. The AVE as a measure of convergent validity is also above 0.5 for all constructs.

## Analysis and results

The hypotheses posed were tested, and the relationships between the variables were assessed using the structural equation modeling (SEM) technique (see Figure 1 for the conceptual framework and the hypotheses). The sample size of 403 allowed for the conduct of SEM using SPSS AMOS software (Kline, 2011).

Overall model fit measures are presented in Table 3. The comparative fit index (CFI) has a value of 0.975, which is greater than the recommended threshold of 0.95, indicating an excellent fit. The standardized root mean square residual (SRMR) has a value of 0.042, which is less than the recommended threshold of 0.08, also indicating an excellent fit. The root mean square error of approximation (RMSEA) has a value of 0.052, which is less than the recommended threshold of 0.06. Hence, hypotheses H1, H2, H3, and H5, with statistically significant values below 0.05, are accepted.

Table 4 reports the degree of predictive capacity of the dependent variables on the independent variable. Hypothesis 1 (H1) suggests that entrepreneurial

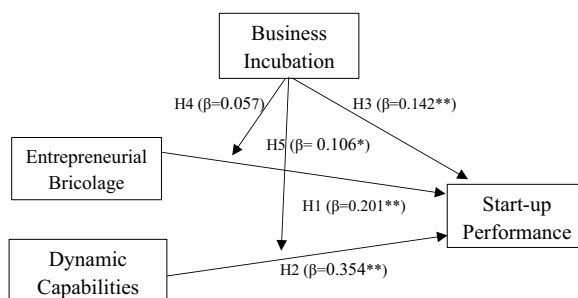


Figure 1. The conceptual model and the hypotheses. Note: \*\*:  $p < 0.01$ , \* $p < 0.05$ .

Table 3. Model fit measures.

| Measure | Estimate | Threshold       | Interpretation           |
|---------|----------|-----------------|--------------------------|
| CMIN    | 203.127  | –               | –                        |
| DF      | 98       | –               | –                        |
| CMIN/DF | 2.073    | Between 1 and 3 | The model is a good fit. |
| CFI     | 0.975    | > 0.95          | The model is a good fit. |
| SRMR    | 0.042    | < 0.08          | The model is a good fit. |
| RMSEA   | 0.052    | < 0.06          | The model is a good fit. |
| PClose  | 0.368    | > 0.05          | The model is a good fit. |

Table 4. Path estimates.

| Hypothesis | Relationships                           | Estimate | SE    | CR    | P value  | Remarks         |
|------------|---|----------|-------|-------|----------|-----------------|
| H1         | Entrepreneurial bricolage → performance | 0.201    | 0.048 | 4.417 | < 0.01** | Significant     |
| H2         | Dynamic capabilities → performance      | 0.354    | 0.047 | 7.524 | < 0.01** | Significant     |
| H3         | Business incubation → performance       | 0.142    | 0.045 | 3.161 | 0.02**   | Significant     |
| H4         | IN*EB → performance                     | 0.057    | 0.054 | 1.114 | 0.265    | Not significant |
| H5         | IN*DC → performance                     | 0.106    | 0.046 | 2.130 | 0.033*   | Significant     |

Note: \*\* Significant at one percent level.

\* Significant at five percent level.

bricolage positively contributes to firm performance, and the estimate is 0.201 with a statistically significant *p*-value, indicating a significant positive relationship between the two variables. This suggests that 20.1 percent of new venture performance is predicted by entrepreneurial bricolage. Hypothesis 2 (H2) tests the relationship between dynamic capabilities and performance, and the estimate is 0.354 with a significant *p*-value, indicating a statistically significant positive relationship between the two variables. The findings suggest that the effect of dynamic capabilities on firm performance is higher than the effect of bricolage (35.4 percent). Hypothesis 3 (H3) tests the relationship between business incubation and performance, and the estimate is 0.142 with a statistically significant *p*-value, indicating a significant positive relationship between the two variables. When the estimates are compared, the most influential factor in the performance of start-ups in the Kerala region can be identified as the possession of dynamic capabilities.

The model also accounts for the moderating role of being in a business incubator on the relationship between dynamic capabilities and entrepreneurial bricolage on new venture performance, and it suggests that the moderating effect of business incubation on the relationship between dynamic capabilities and venture performance is supported, but such a moderating effect for bricolage capabilities is not supported. Hypothesis 4 (H4) tests the moderating effect of business incubation on the relationship between entrepreneurial bricolage and performance, which shows a statistically not significant relationship. Hypothesis 5 (H5) tests the moderating effect of business incubation on the relationship between dynamic capabilities and performance, and the estimate is 0.106 with a statistically significant *p*-value, indicating that business incubation further strengthens the relationship between dynamic capabilities and start-up performance (see Table 4).

These findings suggest that being in an incubation center enhances the performance of a start-up with dynamic capabilities, but it does not help if the start-up is purely reliant on entrepreneurial bricolage—that is, if their strategy is to make the most of scarce resources. This finding is further corroborated in Figure 2, as

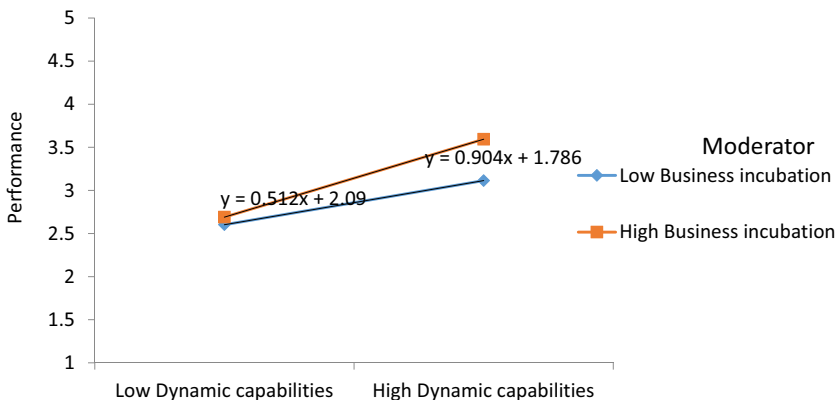


Figure 2. Dynamic capabilities–business incubation–performance relationship.

demonstrated by the slope of the line representing high business incubation ( $\beta = 0.904$ ) is steeper, and low business incubation ( $\beta = 0.512$ ) is flatter, indicating that the positive effect of dynamic capabilities on start-up performance is stronger when business incubation support is high. This indicates that start-up founders with higher levels of dynamic capabilities can leverage incubation facilities in strategic ways to enhance their start-up performance. However, ventures with limited incubation facilities experience weaker performance, even dynamic capabilities of the founders are high.

## Discussion

This study investigated the role of entrepreneurial bricolage, dynamic capabilities, and business incubation on new venture performance under resource constraints in the emerging market context. It also examined the moderating role of business incubation, as a state-led policy tool in the unique example of Kerala Startup Mission in India, for its effects on bricolage and dynamic capabilities of start-ups and sustained performance for potential scaling up.

First, in line with the extant literature, this study further affirmed that both entrepreneurial bricolage and dynamic capabilities positively affect firm performance (Davidsson et al., 2017; de Klerk, 2015; Ning et al., 2020; Senyard et al., 2009, 2014; Sivathanu & Pillai, 2020; Teece, 2007, 2014).

Second, our results corroborate with Mrożewski and Dudziak (2025), who have observed the prominent role of dynamic capabilities on start-up performance as compared to bricolage, but not undermining the important role of bricolage in triggering the accumulation of dynamic capabilities under resource-constrained conditions. Similar observations are noted by Muhammad et al. (2025) for empowering women entrepreneurs through the ‘transitional’ role of entrepreneurial bricolage in non-technical, home-based and non-affluent contexts but just alleviating them from poverty to sufficiency. Although entrepreneurial bricolage has a positive and statistically significant relationship with start-up performance—which implies that it can bring operational efficiency, promote creativity, and reduce dependence on external resources (Guo et al., 2016; Yu et al., 2020)—dynamic capability-focused advancements generate higher performance (Cristofaro et al., 2025; Teece, 2007, 2014; Teece et al., 1997) and result in scaling up and further growth of a start-up (Mrożewski & Dudziak, 2025).

Dynamic capabilities contribute to performance by enabling innovation practices, market responsiveness, and strategically informed visionary decisions, which are essential not only for the survival and but also growth of start-ups (Cristofaro et al., 2025). As such, our results can be attributable to time-span, in which bricolage can be more effective (as static) in the short term,

while dynamic capabilities are more effective in the long term.<sup>6</sup> As Ferneley and Bell (2006, p. 240) observed, bricoleur activity hardly acts as the stimulus that moves a firm toward developing an integrated business strategy or “vision” that will serve in the long term, as it focuses on the current moment or the acute problem and necessitates a collaborative action in the firm based on the element of trust. Jaouen and Nakara (2015) found similar results in French small firms, that is when they are locked in short-term vision with only selective access and use of information and resources, bricolage is rewarding. On the other hand, bricolage does not directly generate strategic flexibility, which is a long-term outcome—that is, capability to pursue new opportunities and respond to threats resulting from environmental dynamics as in reconfiguring dynamic capabilities (Teece et al., 1997)—but can do so via the mediating effect of strategic learning in the long run (Mrożewski & Dudziak, 2025, p. 10).

Third, this study additionally shows the direct positive effect of the incubation process on start-up performance, again in accordance with the extant literature by way of access to knowledge networks and R&D services in the incubators (Theodorakopoulos et al., 2014; Gao et al., 2021); mentoring and financial support (Nicholls-Nixon et al., 2022; Sohail et al., 2023); novel technology development in sustaining growth (Sedita et al., 2019; Theodoraki et al., 2020); and networking to connect technology, people, and know-how to accelerate new knowledge formation and speed the commercialization of technologies (Lee & Osteryoung, 2004; Gonthier and Chirita (2019) and support to become part of the entrepreneurship ecosystem (Nana et al., 2026). Most importantly, this study contributes by identifying that incubation process is crucial in elevating the performance outcomes from dynamic capabilities compared to bricolage. Particularly in the context of emerging markets, contrary to what is often recommended for emerging market firms with resource constraints—that is, focus on bricolage in the case of start-ups’ initial years of lifecycle (Guo et al., 2016; Yu et al., 2020)—this study found that focusing on dynamic capabilities and business incubation support generates better and long-term performance in start-ups.

This is an important finding, which resonates with the importance of heterogeneous ‘contexts’ in entrepreneurship, as adamantly stressed by Welter et al. (2019) and Baker and Welter (2020). This study affirms that the effect of dynamic capability accumulation can be enhanced in business incubators specifically set up for start-ups and implemented as effective tools in an emerging market. Taking the India Kerala Startup Mission as a unique but exemplar case, the study shows that the incubation process improves the dynamic capabilities of start-ups more than bricolage capabilities and offers

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<sup>6</sup>We are thankful to an anonymous reviewer who encouraged us to accentuate the static nature of bricolage throughout the article.

long-term outcomes. Therefore, in emerging markets with resource constraints, it is more beneficial for start-ups to be involved in the business incubation process. In that sense, this study provides valuable information to policymakers toward effective use of incubators to concentrate on dynamic capabilities accumulation in start-up firms rather than bricolage capabilities.

## Conclusion

This study aimed to address existing gaps in emerging market entrepreneurship literature by assessing the start-up incubator program for its bricolage versus dynamic capability-enhancing effects. Our findings demonstrate that start-up incubators can be effective tools to leapfrog start-ups to gain dynamic capabilities in the early phases of their lifecycle and sustain growth in the long term, rather than being confined to making do with scarce resources and aiming at survival only in the short term.

This article contributes to the extant literature in several ways. First, whereas previous literature has studied bricolage and dynamic capabilities in an isolated way (Baker et al., 2003; Corvello et al., 2023; Cristofaro et al., 2025; Mateus & Sarkar, 2024; Pigola et al., 2022; Sarfo et al., 2025; Senyard et al., 2014), we proposed and tested a model that studies the synergistic effect of both resource-constrained and adaptive strategies on contributing performance of emerging market start-ups, albeit under a purposefully implemented incubator program. The latter links well to our second contribution, as the majority of incubation studies have focused on developed countries, often ignoring the nascent venture operating in emerging markets (Mian, 1994; Lee & Osteryoung, 2004; Sedita et al., 2019; Theodoraki et al., 2020; Nana et al., 2026). Thus, start-ups operating in emerging markets generally depend on internal resources and informal networks for the growth of their ventures. As a result, by placing the formal incubation process in its “context” *à la* Welter (2011), this study contributes to a better understanding of the role of incubation in resource-constrained environments and how incubation helps in shaping the formation of dynamic capabilities to replace bricolage in such contexts. These findings and contributions have implications for entrepreneurship policy and entrepreneurs.

### ***Entrepreneurship policy implications from incubator perspective***

Today, institutional involvement in start-up communities such as business incubators, accelerators, and venture capital institutions tries to uplift the start-ups from initial liabilities and provide conditions for sustained scaling up (Mian, 1997; Mireftekhari, 2017; Theodoraki et al., 2020). Incubation managers', mentors', and experts' expertise level and financial capital provided by the incubation centers lead to the success of tenants (Zhang & Sonobe,

2011). This research extends these results by demonstrating that incubated start-ups can make more effective use of their dynamic capabilities to reflect on their venture performance when they are located in more resourceful environments.

This is corroborated by the observation that entrepreneurial bricolage does not seem to be enhanced by the incubation process, as an incubation process can offer more than bricolage capabilities. Hence, incubation support is crucial in the emerging economy context, as it directly enhances the dynamic capabilities of new ventures rather than confining efforts to entrepreneurial bricolage. This ensures performance of the new venture will be sustained in the long term because it will be based not on making the most of available yet scarce resources but on firm-level capabilities that sustain innovativeness by the ability to transform into novelty. As such, our study demonstrates that incubation centers are crucial as an entrepreneurship policy priority to enhance the dynamic capabilities of start-ups. Indeed, such a priority may be one crucial element of scaling up new ventures. Whether state- or privately funded, incubators as policy tools must be supported to enhance start-up performance.

### ***Practical implications for entrepreneurs***

The findings of this study also carry several practical implications. First, entrepreneurs in emerging markets with resource constraints should aim to access an incubator wherever possible. In case it is not possible, they should apply bricolage to convert an organizational resource into innovative products. To do this, they should have to regularly evaluate available resources and reuse them. They also need to adapt trial-and-error methods, which help resource combinations within the organization.

Furthermore, they should develop networking capabilities, such as engaging in bricolage with government, competitors, and customers. Indeed, start-up founders can form efficient teams in taking strategic decisions at different points in time, alternating between bricolage and dynamic capabilities.

Once moving beyond bricolage, the founders should focus on accumulating dynamic capabilities to sustain long-term growth of their ventures. Exploiting resources provided by incubators appears a promising avenue for young start-ups to achieve sufficient and advancing dynamic capabilities in the medium and long term.

Findings from this study, based on an Indian example, can help empower start-ups and policymakers in other emerging markets with resource constraints to make well-informed decisions regarding the adoption of business incubation facilities and to capitalize on its potential benefits.

### **Limitations and avenues for further research**

This study is not without limitations. First, it observed the relationship between a firm's resources and capabilities on new venture performance by conducting the study at one point in time. A longitudinal dataset is more effective for testing such relationships to observe changes over time.

Second, the findings of the study are confined to start-ups in Kerala, whose results might not be firmly applicable to other nations, as this is a specifically targeted and mission-oriented national program in India. However, the program itself provides notable insights into other emerging markets.

Third, the study has taken into consideration only those factors that are collected using quantitative terms but shaped solely by the perceptions of the respondents. Therefore, our conclusions are based on what the respondents think rather than what new ventures would actually display. For the latter, future research can try to generate hard data based on objective observations.

Finally, qualitative narratives from entrepreneurs can increase understanding of the process of incubation for its effects on dynamic capability improvement and ultimately for scaling up, and especially for a rich comparison of bricolage versus dynamic capabilities. Qualitative research can be used to complement quantitative findings to provide solutions to deeper issues in the incubation process and capability accumulation.

Future research can be conducted in this area by considering the effect of many other resources—such as intellectual capital (Chen et al., 2004; Hejazi et al., 2016), knowledge management, entrepreneurial orientation (Boso et al., 2013; Zhao et al., 2011), and digital marketing capabilities (Patil et al., 2022)—on new venture performance. A longitudinal analysis of incubator performance based on Messeghem et al. (2018) could be conducted using incubator performance scales for the effectiveness of incubators in the emerging market context. Finally, monitoring incubator firms with a longitudinal perspective beyond their graduation to assess their scalability could provide useful findings for policymakers, practitioners, and incubators.

### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

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