

Government Venture Capital Support for Building Relationships between Startups and Stakeholders

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Abstract

The growing social demands in recent years have led to a widespread use of government venture capital (GVC) among startup companies. However, owing to its diverse roles, GVC's investment performance is not always as favorable as that of private venture capital. Therefore, determining how GVC can achieve positive results is an urgent issue. This study adopts a multiple-case study approach to analyze effective GVC investment strategies. The focus is on startup companies' efforts to build relationships with other stakeholders, an aspect that is not clearly quantifiable. Applying the perspective of these relationships between startups and parties such as GVCs, investors, customers, and host companies (parent companies), we propose hypotheses in three support categories: financial, operational, and spinoff. These hypotheses address large-scale and flexible financial support, credit enhancement, sales support, and parent company relationships in spinoffs. This study contributes to previous research by focusing on specific GVC actions and verifying their effects.

Keywords: Startups, Government venture capital, Stakeholder theory, Eisenhardt's case study approach, Relationship management

1 Introduction

Since the late 1990s, European governments have made promoting venture capital (VC) investment a central policy objective [1]. At the time, Europe's VC

market lagged considerably behind that of the United States [2], prompting governments to establish public venture capital initiatives, hereafter referred to as government venture capital (GVC). Prominent examples include Scotland's Scottish Enterprise, France's Bpifrance, and Italy's Piemontech [3]. Currently, European governments are the principal providers of VC funding [4], with a substantial portion being managed directly by public institutions through GVC programs [5]. These initiatives are designed not only to mitigate the shortfall in private venture capital (PVC) investment but also to deliver broader societal benefits, including regional economic development, job creation, and environmental innovation [6,7].

Despite these objectives, empirical research consistently reports mixed or limited evidence of GVC's effectiveness in enhancing portfolio firm performance [5,8–10]. Existing studies have investigated structural mechanisms such as syndication with PVC investors [11], strategic orientation [5], and contextual factors [12], yet comprehensive evaluations remain scarce.

A significant constraint is the heavy reliance on a limited number of datasets. In Europe, much of the seminal GVC literature of the 2000s drew upon the VICO dataset, which was developed through a European Commission research initiative [5,9,13–15]. Consequently, the empirical findings often lack diversity in data sources and contexts. Recent Chinese studies, while contributing novel insights, have predominantly emphasized government involvement [12,16–18], leaving the scope of explanatory variables relatively narrow.

This study addresses these limitations by

exploring GVC-specific variables and management practices that are essential for effectively supporting startups. We employ a multiple-case study design [19] and focus on successful GVC-backed ventures to develop preliminary theoretical propositions and inform future quantitative analyses.

Our investigation centers around the Innovation Network Corporation of Japan (INCJ), leveraging proprietary internal documents obtained through a collaborative project with the Japan Academic Society for Ventures and Entrepreneurs. This unique dataset provides a level of granularity rarely available in VC research, enabling qualitative insights that are beyond the reach of traditional databases.

We analyze seven high-performing startups backed by INCJ and examine how GVCs shape startup development through interactions with key stakeholders. Specifically, we explore four dimensions of startups' relationships with stakeholders: (1) startup–GVC, (2) startup–customer, (3) startup–investor (with an emphasis on VC syndication), and (4) startup–host company. By elucidating these dynamics, this study contributes to GVC scholarship and offers actionable guidance for designing future GVC programs.

2 Theoretical background

Although shareholders are a prominent stakeholder group, a wide range of other actors are also involved as stakeholders [20]. Stakeholder relationships are especially critical for startups owing to their resource constraints and heightened uncertainty [21]. Founders and management teams, therefore, require substantial social capital to secure resources, expertise, and legitimacy [22–26]. Technical expertise is equally essential, forming the foundation for innovation and product development [27–29]. Baum and Silverman [30] categorize these capabilities as relational, intellectual, and human capital. However, few startup teams possess all these capabilities internally, making support from external organizations indispensable [31–33].

Among these external supporters, VCs play a

pivotal role in shaping startup growth trajectories [34,35]. VC involvement is consistently associated with higher valuations at initial public offerings (IPOs) [36,37] and greater growth potential [38].

Scholars have extensively examined VC capabilities, exploring differences between corporate venture capital (CVC) and independent venture capital (IVC) [39], characteristics of VC support [40–43], and how networks [44] and experience [45] enhance VC effectiveness.

More recently, research has shifted from focusing solely on VC characteristics to analyzing the quality of VC–startup relationships. Beyond their scouting and screening functions, the coaching and mentoring roles of VCs have gained attention [30,46]. Frequent interactions between VCs and startups have been shown to positively influence performance [47], with geographical proximity identified as a key enabler of these interactions [48–51].

However, research gaps remain. While prior studies have explored startup–VC relationships [52,53], few have examined collaboration and complementarity among VCs themselves, including co-investment and inter-VC interaction [11,54,55]. Moreover, startups must engage not only with VCs but also with other stakeholders. Consequently, VCs are expected to act as connectors within broader networks. Although the literature acknowledges the value of relationships with diverse external organizations [56], empirical validation remains insufficient [57]. Further, limited research examines how startups leverage external support to expand stakeholder relationships.

This study addresses these gaps by examining how VCs facilitate startup network building, with a particular emphasis on relational dynamics that support their development. It employs a multiple-case study design [19], a methodology that facilitates constructing a more robust and generalizable theory than do single-case studies [58]. Our aim—to investigate startups that achieved exceptional growth beyond initial investment expectations and identify the factors underlying these outcomes—aligns with Eisenhardt's objective

of unpacking “black-boxed” processes and practically significant phenomena that are insufficiently explored in extant literature [59].

This research focuses on GVC-backed startups. The VC–startup relationship offers benefits beyond capital infusion and exit strategies such as acquisitions or IPOs; it also enhances startups’ information-gathering capabilities and strategic positioning. Moreover, variations in relationship-building dynamics across cases make this a compelling subject of inquiry [53]. While prior studies have highlighted CVCs’ ability to provide access to complementary assets [43] and proposed that GVCs contribute to sociocognitive legitimacy [12], empirical evidence remains scarce. This warrants an in-depth case-based investigation of GVC-backed startups.

3 Methods

This study’s analysis is based on investment project data from INCJ. INCJ was established in September 2018 as a successor to the Innovation Network Corporation of Japan, originally launched in 2009 to address structural changes in the Japanese economy and implement industrial policy. With its risk-taking mandate and public policy orientation—features that distinguish it from PVCs such as CVCs or IVCs—INCJ is an appropriate focal case for GVC research.

We began by reviewing INCJ’s portfolio of 144 total investments since 2009, identifying 105 direct startup investments. Following a theoretical sampling approach [19], we selected seven companies that achieved a particularly high multiple of cost and demonstrated exceptional investment outcomes. Multiple of cost was prioritized over the more conventional internal rate of return, reflecting INCJ’s emphasis on long-term value creation, consistent with the policy-driven mandate of GVCs. Table 1 summarizes the companies selected following Hallen and Eisenhardt’s [53] framework. The sample was designed to capture variation: While five firms are headquartered in Tokyo, one is based in Osaka and

another overseas. Most key figures had prior industry experience, although one company was student-founded and another was led by a former VC professional. Further, the founders’ educational backgrounds differed: Three attended top national universities, three were from leading private institutions, and one went to a foreign university. The companies represent Series A, B, and C funding stages.

The primary data consist of internal documents prepared and maintained by INCJ at both the investment decision stage (including initial and follow-on investments) and at exit (IPO, merger/acquisition, or transfer). The documents detail business plans, market forecasts, revenue projections, investment recovery outcomes, exit strategies, and decision rationales, offering a highly reliable and comprehensive dataset not typically available to external researchers.

Table 1. Overview of sample companies

Company ID	Headquarters location	Key figure in funding	Experience in startups or related businesses	Role at previous company	Educational background*	INCJ's Investment Stage	Decided Investment Amount
Company A	Tokyo	CEO	Launching a new business Within a company	Subsidiary Management	Top private university	Series B	750 million yer
Company B	Tokyo	CEO	Employment at an affiliated company	Financial officer	Overseas university	Series B	4.9 billion yen
Company C	Tokyo	CEO	Employment at an affiliated company	Executive officer	Top national university	Series A	400 million yer
Company D	Tokyo	CEO	Launching a startup	CEO	Top national university	Series A	1.3 billion yen
Company E	Osaka	CEO	Employment at an affiliated company	Head of preparatory office for Company E	Top private university	Participating from the founding**	4.2 billion yen
Company F	Tokyo	CEO	Started company F while a student		Top national university	Series C	300 million yer
Company G	US	CEO	Working at a venture capital		Top private university	Series C	10 million US dollars

* The top private universities are Waseda University and Keio University, while the top national universities include the former Imperial Universities.

** Although not listed in the series documentation, it was established as a subsidiary.

The analysis was performed in two steps. First, we conducted within-case analysis to develop detailed case histories, capturing each startup's business trajectory, financial profile, and the nature of GVC support. Second, we performed cross-case analysis to identify patterns, similarities, and differences across cases and formulated generalizable theoretical insights into how GVCs strategically influence startup growth trajectories.

This iterative process continued until theoretical saturation was achieved at seven cases, consistent with Eisenhardt's [19] recommended range of four to ten cases. Through this analysis, three major categories of GVC contributions to startup stakeholder relationships emerged: financial, operational, and spinoff support. The following section presents findings for each category and proposes hypotheses derived from the cross-case analysis, following Hallen and Eisenhardt's [53] approach.

4 Results

This section presents our findings from the cross-case analysis, organized by the three categories of GVC support: financial, operational, and spinoff.

Hypotheses are developed within each category based on recurring patterns across cases.

4.1 Financial support

The analysis revealed that GVCs provide distinctive financial contributions to startups through two channels: (1) the direct relationship between GVCs and startups and (2) relationships with other investors facilitated by GVCs.

4.1.1 Direct GVC-startup relationship: Large-scale, flexible investment

This study finds that GVC investments are often larger in scale or more flexible than those of PVCs, while CVCs tend to make larger and longer-term commitments. This result reinforces previous research findings that highlight differences between CVCs and IVCs [40]. For example, the size of Company G's investment was deemed too risky for conventional domestic VCs or corporate investors, leading INCJ to act as the anchor investor and absorb this risk. Similarly, Company E required a significant initial investment with the expectation of an extended stabilization period prior to recovery.

Hypothesis 1a: When GVCs supply risk capital beyond the capacity of PVCs, startup performance

improves.

Flexibility also emerged as a distinctive feature. Company C pursued an industry-transforming strategy that required prolonged market adoption, creating a mismatch with the shorter investment horizons of private VCs. Company D faced similar constraints: To attract overseas institutional investors for its IPO, it required a large offering size that existing shareholders were initially reluctant to support. INCJ addressed this by structuring a scheme to sell 80% of its stake at the IPO, thereby enabling execution. These cases support prior findings that VCs demonstrating flexibility in investment periods [60] and tolerance for failure [61] deliver superior outcomes.

Hypothesis 1b: When GVCs establish flexible investment schemes that PVCs cannot match, startup performance improves.

4.1.2 GVC-investor relationships: Credit complementarity

GVCs also act as catalysts, coordinating and anchoring syndicated investments with other VCs and strategic investors. For example, Company A faced significant constraints from private investors seeking restrictive terms and major shareholder dilution. INCJ stepped in as an anchor investor, making it possible to form a more favorable syndicate and paving the way for subsequent large-scale fundraising. Similarly, for Company B, INCJ's initial ¥900 million commitment, combined with a ¥4 billion investment ceiling, unlocked approximately ¥3 billion in additional private and corporate VC funding. These cases extend Alperovych et al.'s [11] findings, illustrating the pivotal role GVCs play in facilitating coordinated investment schemes.

Hypothesis 2: When GVCs act as anchor investors in syndicated deals, startup performance improves.

4.2 Operational support

Operational support—defined here as a set of

non-financial, value-adding activities through which GVCs help startups overcome resource constraints and strengthen stakeholder relationships—emerged as a distinctive function of GVC involvement. Operational support complements financial investment by addressing startups' managerial and operational challenges. In this study, operational support encompasses actions such as introducing potential customers, facilitating strategic partnerships, providing market legitimacy, and offering managerial guidance.

Our analysis identified two primary types of operational support for startups: (1) sales support, where GVCs directly introduce startups to clients and partners, and (2) credit enhancement, where GVCs leverage their public-sector reputation to build trust and legitimacy in highly regulated or infrastructure-related markets.

4.2.1 Customer relationships I: Sales support

GVCs leveraged their networks to connect startups with key clients and partners. For example, Company G was introduced to consulting firms, private equity investors, operating companies, and government agencies, including firms that INCJ had previously invested in. Company A also benefited from introductions to government ministries, while Company B gained access to major real estate developers—relationships critical to securing large-scale development projects. These findings demonstrate the tangible outcomes of VCs' network capital, as suggested by Sørensen [45].

Hypothesis 3: When GVCs facilitate introductions to government agencies or strategic partners, startup performance improves.

4.2.2 Customer relationships II: Credit enhancement

GVCs' affiliation with government entities confers a unique credibility advantage. This public-sector legitimacy is particularly valuable for infrastructure-related or high social impact projects, supporting findings by Devarakonda and Liu [12] regarding GVCs' role in sociocognitive endorsement.

For example, Company B's telecommunications infrastructure projects, Company F's cybersecurity solutions, and Company G's digital infrastructure platform all relied on INCJ's credibility to penetrate key markets. Company C also sought INCJ's neutrality to credibly position its ecosystem platform, while Company E leveraged INCJ's reputation to navigate relationships with local governments.

Hypothesis 4: Startups engaged in infrastructure-related businesses, whether hardware- or software-focused, are more likely to succeed when supported by GVCs, which provide credibility and neutrality.

4.3 Spinoff support: Managing host company relationships

Some startups originated as spinoffs from larger corporations, which requires a different type of VC involvement: influencing the nature of relationships with parent firms and external investors. Two patterns were observed: (1) reducing host company

control and (2) mediating tensions among multiple stakeholders.

Company C exemplifies the first pattern. Initially, it was a subsidiary with heavy managerial involvement from its parent firm; however, it underwent a strategic transformation under new leadership. INCJ's investment diluted the parent company's influence, granting neutrality and enabling it to serve as an independent ecosystem platform. This aligns with innovation literature that emphasizes the importance of creating independent structures to foster disruptive innovation [62].

Company E illustrates the second pattern. With a major corporate shareholder and an overseas-focused VC, INCJ's significant investment diversified the shareholder base, reducing dependence on the parent company and stabilizing governance.

Hypothesis 5: When GVC investments in spinoffs reduce parent company influence, startup performance improves.

Table 2 summarizes the presence or absence of distinctive support features for each startup.

	Financial support: Large-scale, flexible investment	Financial support: Credit complementarity	Operational support: Sales support	Operational support: Credit enhancement	Spinoff support
Company A		○	○		
Company B		○	○	○	
Company C	○			○	○
Company D	○			○	
Company E	○			○	○
Company F				○	
Company G	○		○	○	

5 Discussion

This study applied Eisenhardt's [19] multiple-case study method to investigate how GVCs shape startups' relationships with key stakeholders. Our findings were organized into three categories of GVC contributions: (1) financial support, including both direct investments and coordination with other investors; (2) operational support, particularly in building customer and partner relationships; and

(3) spinoff support, focusing on relationships between startups and their parent companies.

While some GVC support functions were highly effective, others had limited effectiveness. This section synthesizes these findings, positioning GVC roles relative to existing research on PVCs and CVCs and highlighting areas where GVC strategies may need refinement. In addition, it explores how these support functions operated in different startup growth strategies.

5.1 Effective support provided by GVCs

5.1.1 Financial support

Islam et al. [63] emphasize the critical role public institutions play in enhancing startups' credibility, demonstrating that early-stage access to prestigious grants improves subsequent VC fundraising prospects. Similarly, this study highlights GVCs' ability to act as anchor investors, structure syndicated deals, and attract follow-on private capital. By providing risk capital and legitimacy, GVCs fulfill a credit enhancement function, reinforcing their role as public sector institutions that catalyze investment.

5.1.2 Operational support

Devarakonda and Liu [12] find that GVCs in China's biopharmaceutical and medical device sectors provide sociocognitive legitimating endorsement, enabling startups to earn trust from external resource holders. This study extends these insights, demonstrating that GVCs not only enhance credibility but also enable distinctive forms of support—particularly introductions to government agencies and large corporations—made possible by their unique status as publicly backed entities. This underscores their dual role as financiers and network builders.

5.1.3 Spinoff support

Bae and Lee [64] observe that CVCs are often reluctant to invest in spinoffs with high technological overlap owing to conflicts with parent firms, making stakeholder relationship building more challenging. Our findings indicate that involving GVCs in such contexts provides neutrality and fairness, mitigating parent-company dominance and enabling startups to cultivate independent stakeholder networks. This illustrates a unique GVC function: strategically weakening host-company ties when necessary to achieve long-term growth.

5.2 Areas where GVCs face challenges

Despite its focus on high-performing cases, this study also revealed areas where GVC support is less effective. The first challenge is international

expansion support. Although startups like Companies A and B expected INCJ to provide credibility and introductions for overseas expansion, clear outcomes have yet to materialize. Consistent with Sorensen and Stuart [55] and Madhavan and Iriyama [65], VC networks are often geographically constrained, and strong GVC ties to domestic ecosystems may further limit their effectiveness abroad. Whether this challenge is intrinsic to GVCs or a general VC limitation warrants future investigation.

The second challenge is engagement with small and medium enterprises (SMEs). For Company C, efforts to build an ecosystem involving SMEs through its proprietary platform were less successful than anticipated. While INCJ effectively facilitated relationships with large corporations and government entities, its reach to SMEs proved limited. This highlights a structural challenge: GVCs' public-sector orientation may structurally bias their networks toward large institutions, making SME engagement resource-intensive and personnel-constrained. Future research should explore strategies to overcome these constraints.

5.3 Startup strategy and GVC response

This study focused on the role GVCs play in startup-stakeholder relationships; however, analyzing support in relation to startups' business strategies provides additional insights. The cases reveal the following three growth trajectories.

1. Core business growth (Companies A, F, G): This path involves scaling along pre-defined business plans, which requires large investments and credibility to accelerate planned growth. GVCs played a pivotal role as anchor investors, leveraging their network to secure additional capital and expand customer bases.

2. Diversification/horizontal expansion (Companies B, D): This approach includes pursuing opportunities beyond initial plans, which requires flexible funding and credibility to enter new domains. The patient capital commitments and government-backed legitimacy of GVCs facilitated unplanned growth while mitigating risk.

3. *Value reconstruction (Companies C, E)*: This method involves adjusting strategy owing to crises or market changes. GVC support provided “rescue capital” to maintain investor confidence, redesign exit scenarios, and ultimately secure high returns despite adversity.

These findings emphasize the unpredictability of startup growth paths and importance of flexible GVC strategies. Such adaptability, difficult to capture in large-scale quantitative studies, underscores the value of multi-case methodologies in refining theory.

5.4 Limitations

While this study’s qualitative, multi-case analysis of INCJ’s high-performing investments offers valuable insights into the multifaceted roles of GVCs, several limitations should be acknowledged.

First, the sample selection limits generalizability. The cases analyzed were deliberately chosen as successful examples. They provided rich insights into GVC best practices but did not capture the full spectrum of investment performance, including lower-performing or failed ventures. Future studies should include a more diverse set of cases to develop a comprehensive theoretical framework.

Second, comparative analysis with other VC types was limited. Although this study conceptually compared GVC roles with those of PVCs and CVCs, no empirical data were systematically collected for these investors. Cross-country and cross-VC-type comparative studies are needed to determine whether the GVC roles observed are unique to INCJ or reflect broader global practices.

Third, data triangulation remains incomplete. This study relied heavily on INCJ’s internal documents, which provided exceptional detail but were primarily investor centric. Perspectives from other stakeholders such as executives of investee firms, private investors, and industry partners were not extensively included. Future research should employ triangulated data collection, incorporating interviews and third-party reports to develop a more holistic understanding of GVC roles.

By acknowledging these limitations, this study

aims to encourage further research that extends beyond success cases, integrates comparative perspectives, and draws on multiple data sources, thereby refining theoretical insights and strengthening the practical relevance of findings.

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