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Platform-Mediated Crisis Policy and Entrepreneurial Ecosystem Resilience: Evidence from Western Cape SMME Support

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Abstract

This article examines how platform-mediated crisis policy shaped inclusion and exclusion outcomes for small, medium, and micro enterprises (SMMEs) in the Western Cape during COVID-19. Integrating a market-failure perspective with entrepreneurial ecosystem theory, we present a theory-driven secondary analysis of 16 qualitative interviews and policy documents. We map five crisis-amplified failures—finance, markets, digital, institutions, and human capital—onto Isenberg's six ecosystem domains and analyze how provincial interventions, particularly digital marketplaces, voucher schemes, and online coordination tools, functioned as governance mechanisms regulating access, visibility, and participation. The findings show that platform-mediated interventions accelerated coordination and digital market access but disproportionately benefited already connected firms, leaving institutional and inclusion gaps largely unresolved. We conceptualize sub-national crisis response as a form of platform governance and discuss implications for designing more inclusive digital policy infrastructures in middle-income contexts.

Keywords: COVID-19; platform governance; digital marketplaces; platform-mediated policy; SME inclusion; entrepreneurial ecosystems; sub-national governance

1. Introduction

Small, medium, and micro enterprises (SMMEs) operate in environments with pre-existing weaknesses that were exposed and worsened by the realities of the COVID-19 pandemic and frequent economic lockdowns, especially in developing and middle-income economies [1]. Volatile economic conditions were experienced worldwide, with the pandemic impacting both developed and developing countries to the same extent [2,3]. Due to insufficient digital capabilities and inconsistent state support, SMMEs experienced acute cash-flow constraints, limited access to finance, a collapse in demand, and disrupted supply chains across all countries [4]. Many businesses in South Africa survived only for a few months without targeted relief due to these constraints, in addition to an already precarious labor market and long-standing structural injustices [5–7]. Nine out of ten firms in South Africa reported lower turnover, and about half of all businesses reported a halt in commercial activity during the lockdown periods [8].

The Western Cape is an intriguing case in this national context. Despite significant economic disruption, the province's gross domestic product (GDP) per capita performance in 2020–2022 was stronger than that of the rest of South Africa; Cape Town's GDP per capita was reported at R106,364, compared to R83,163 for the rest of South Africa [9]. Resilience,

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networking, and various microeconomic interventions by the Western Cape Government (WCG), including efforts to create an entrepreneurial ecosystem, were identified as critical elements in a survival framework developed through a qualitative study of 16 successful SMMEs [10]. However, instead of assessing the extent to which government actions addressed underlying market and institutional failures, this earlier analysis focused on firm-level survival variables and on whether Isenberg's six ecosystem elements were present in principle [3].

Firm-level evaluations of adaptation and resilience or descriptive reports of policy packages predominate in the broader COVID-19 SMME literature [1,4]. Despite extensive COVID-19 research, little is known about how the pandemic affected SMME performance [11]. Far less research specifically assesses how sub-national governments operate within multi-level governance systems and whether crisis interventions relax particular constraints—such as liquidity, information, or digital gaps—within an entrepreneurial ecosystem framework [12–15]. There is a conceptual and empirical gap at the intersection of market-failure analysis, ecosystem thinking, and crisis policy, stemming from the disparity in GDP per capita relative to the rest of the nation and the lack of research on institutional interventions in this region.

Recent research suggests that crisis-era support increasingly operates through digital platforms that mediate access to markets, subsidies, vouchers, and information [16,17]. Such platforms do not merely transmit support; they embed governance rules—onboarding criteria, eligibility filters, verification systems, and algorithmic visibility—that structure how firms access and participate in support mechanisms and under what conditions. During crises, these governance choices may accelerate coordination but also reinforce inequalities between digitally capable and peripheral firms [18–20].

This article addresses that gap by asking: When analyzed using Isenberg's entrepreneurial ecosystem paradigm, to what extent did the Western Cape Government's platform-mediated COVID-19 interventions alleviate binding market and institutional failures, and how did their governance design shape inclusion and exclusion within the entrepreneurial ecosystem?

We conduct a theory-driven secondary analysis of existing interview data and policy documents, reinterpreting them using a two-dimensional framework, building on the initial qualitative study of 16 Western Cape SMMEs [10]. We achieve this by distilling Isenberg's six ecosystem domains and five families of failures (finance, markets/supply chains, digital, institutions/policy, and human capital) from recent SMME and COVID literature [4].

Despite a growing body of research on entrepreneurial ecosystems and crisis responses, the literature often treats market failures, ecosystem dynamics, and digital or platform-based interventions separately. This study addresses this gap by focusing on the intersection of platform-mediated policy instruments, entrepreneurial ecosystem theory, and market-failure analysis in crisis contexts. Specifically, we examine how these dimensions interact within a structured analytical framework applied to a subnational case, providing a more integrated understanding of SMME resilience under conditions of systemic disruption. This integrated perspective enables us to move beyond descriptive accounts of policy responses and instead evaluate how platform-mediated instruments reshape access, coordination, and inclusion within regional entrepreneurial ecosystems.

There are three contributions. Building on Isenberg's [21,22] six-domain model and more recent systems-oriented work [15,23,24], we first incorporate market-failure analysis into entrepreneurial ecosystem theory under systemic crisis conditions. Second, we assess the Western Cape's crisis response at the ecosystem level, highlighting both its strengths and ongoing shortcomings in addressing resource limitations [4]. Third, we place the Western Cape situation within an international comparative framework for ecosystem-

oriented crisis management, drawing conclusions that apply not only to the Western Cape but also to the rest of South Africa and other middle-income nations [12].

The remainder of the paper is organized as follows. Section 2 develops the theoretical and conceptual framework by integrating Isenberg's six-domain model, entrepreneurial ecosystem theory, and a market-failure perspective. Section 3 describes the COVID-19 policy context in South Africa and the Western Cape. Section 4 explains the data and the theory-driven secondary analysis. Section 5 presents the results according to a failure-ecosystem matrix. Section 6 compares the Western Cape experience with that of other parts of the world. Section 7 addresses policy implications for South Africa and other middle-income economies, while Section 8 outlines limitations and directions for further research. Section 9 concludes.

2. Theoretical and Conceptual Framework

2.1. Market and Institutional Failures in SMME Crises

Long-standing flaws in the markets for finance, goods, technology, and skills are worsened by systemic shocks such as COVID-19, particularly for smaller businesses [2,3]. Research from South Africa and other developing countries shows that SMMEs typically face severe working-capital and liquidity challenges during crises, as revenues decline sharply while fixed commitments remain [1,25,26]. Many small businesses, especially informal ones, cannot access bank financing or emergency credit facilities due to strict collateral requirements, conservative risk assessments, and high interest rates. Consequently, they are forced to rely on expensive informal financing or personal savings [4,13].

Demand collapse and supply chain disruptions exacerbate these financial constraints; mobility limitations, input shortages, and logistics bottlenecks result in overstocking, employment losses, and business closures [1]. Technological and digital gaps also interact with crises. Many SMMEs lack the digital marketing expertise and skills required to transition swiftly to online channels or use platforms for sales and coordination [4,27]. According to Farisani [5] and Mcunu and Ngibe [28], relief programs are often characterized by complicated application procedures, delayed payouts, and poor communication, which exclude the very companies most in need. Finally, the ability to adapt and reorganize business models is hampered by a lack of trained workers, poor managerial skills, and inadequate strategic planning [7].

In this article, we synthesize these insights into five broad categories of failures exacerbated by crises: (1) constraints related to liquidity and finance; (2) failures related to demand, supply chains, and market access; (3) gaps in technology and digital technology; (4) failures related to institutions and policies; and (5) constraints related to human capital and organizations [1,4]. In the following sections, this taxonomy serves as one axis of our analytical matrix.

Crisis conditions amplify these underlying market failures by increasing uncertainty, disrupting coordination, and tightening resource constraints. In this context, entrepreneurial ecosystem domains function not as passive background conditions but as active channels through which these amplified failures are mediated and potentially alleviated. Each ecosystem domain (e.g., finance, markets, institutions, human capital) corresponds to a distinct set of constraints that become binding during crises, while policy interventions—especially those delivered through digital platforms—translate into outcomes through governance mechanisms embedded in these domains.

From this perspective, platform-mediated crisis policy operates by establishing participation thresholds that determine which firms can access corrective mechanisms. Financial support is contingent on administrative and institutional thresholds, such as documentation and application processes, while digital market access depends on capability thresholds,

including connectivity, digital literacy, and platform readiness. As a result, market failures are not only addressed but also reconfigured through ecosystem-specific governance structures, leading to differentiated outcomes of inclusion, partial mitigation, or exclusion across firms.

We reinterpret the five crisis-amplified failures not only as market imperfections but also as governance challenges mediated by digital and institutional infrastructures. When crisis interventions operate through platforms—such as online portals, voucher systems, or digital marketplaces—the interaction between failure type and ecosystem domain becomes a governance outcome. The resulting 5 × 6 matrix captures how platform design and ecosystem activation together shape outcomes in inclusion, access, and resilience. Table 1 synthesizes the five crisis-amplified failure types and maps them onto key entrepreneurial ecosystem domains, providing the conceptual baseline for our subsequent governance-focused analysis.

Table 1. Stylized platform governance outcomes matrix.

Failure Type	Finance	Markets and Supply Chains	Digital (Tools, Data, Access)	Institutions and Policy	Human Capital and Organization
Liquidity and finance constraints	Binding: revenue collapse, fixed costs, restricted bank credit	Indirect: inability to finance inputs and fulfil orders	Indirect: limited capacity to invest in digital channels	Partly: design and targeting of relief and guarantee schemes	Indirect: stress, retrenchments, reduced managerial slack
Demand, supply chain and market failures	Indirect: sunk costs, stranded assets	Binding: demand collapse, logistics bottlenecks, delivery delays	Growing need for online sales, tracking and coordination tools	Partly: lockdown rules, trade restrictions, procurement procedures	Indirect: pressure to multitask and reconfigure operations
Digital and technological gaps	Indirect: inability to access fintech or e-commerce finance	Binding where markets move online and chains digitalize	Binding: poor connectivity, low skills, lack of suitable platforms	Partly: weak public digital infrastructure and support	Binding: insufficient digital skills and change management
Institutional and policy failures	Binding: slow, complex access to relief, policy uncertainty	Indirect: unclear regulations, inconsistent enforcement	Indirect: limited e-government and online application channels	Binding: red tape, opacity, weak coordination and monitoring	Indirect: time diverted from strategic adaptation
Human capital and organizational constraints	Indirect: weak financial management and planning	Indirect: poor supply chain and customer relationship management	Indirect: limited absorptive capacity for new technologies	Partly: under-investment in training and advisory services	Binding: skill gaps, managerial overload, weak organizational resilience

Source: Compiled by the authors.

In line with standard public economics, we use a deliberately simple taxonomy of failures in this article: credit and liquidity constraints linked to imperfect capital markets; information and coordination failures in product and input markets; digital divides that prevent firms from accessing data and platforms; human capital gaps; and weaknesses in public institutions and implementation. Rather than addressing these failures separately, we adopt an entrepreneurial ecosystem perspective: different failures correspond to specific ecosystem domains, and measures implemented during a crisis can be viewed as efforts to ease particular constraints within those domains. This provides a link between the more systemic, meso-level focus of entrepreneurial ecosystem theory and normative market-failure logic.

2.2. Entrepreneurial Ecosystems and the Isenberg Framework

Research on entrepreneurial ecosystems highlights that entrepreneurship emerges from interdependent networks of actors, institutions, and resources rather than being a solitary activity [24]. The concept of businesses embedded in a network of clients, suppliers, partners, and competitors whose co-evolution determines survival was first introduced by Moore [29], who explicitly stated that innovative enterprises cannot develop in isolation. He also noted that when environmental conditions change too rapidly, ecosystems may be damaged or collapse. This is comparable to the impact of COVID-19 on

economies, with lockdowns radically altering the landscape for SMMEs. According to later works [23,30], entrepreneurial ecosystems are systems of interconnected entrepreneurial actors, organizations, and processes that collectively create a supportive environment for growth-oriented entrepreneurship.

This literature was summarized by Isenberg [21,22] into six interconnected sectors that together constitute an entrepreneurial ecosystem: policy, finance, culture, supports, human capital, and markets. According to Brown and Mason [23], access to risk capital depends not only on financial instruments but also on culture, human capital, and networked support. These domains are complementary and reinforce each other. Governments can act as ecosystem orchestrators by reallocating resources and altering policy equilibria to stimulate private innovation, according to public-sector entrepreneurship perspectives [12]. Even when key macro-fiscal levers are under national control, sub-national governments may experiment with region-specific ecosystem policies in federated or multi-level governance systems such as South Africa.

The original Western Cape study concluded that a "theoretical entrepreneurial ecosystem" had been enabled by using Isenberg's framework primarily as a checklist to assess whether interventions and actors could be linked to each of the six domains [3,10]. However, the question of whether these components were successful in easing legally binding restrictions and whether ecosystem functioning extended beyond official policy statements remained unanswered. To determine whether these policies were implemented and whether the six Isenberg aspects are currently being followed, a secondary, in-depth investigation of policies and actions became necessary.

2.3. Public Support as Ecosystem Policy Under Crisis

An increasing body of research on public support for SMMEs during times of crisis reveals a wide range of policy levers. Cash handouts, concessional loans, tax breaks, salary subsidies, and payment moratoria are examples of short-term "first-aid" tools intended to stop a rapid collapse and job losses [1,13]. Support for digitalization, training, incubators and accelerators, public venture funds, and place-based interventions that strengthen local networks and infrastructure are the main focus of medium- and long-term initiatives [4,12]. The WCG's public support recovery interventions for SMMEs in the Western Cape included financial assistance, e-commerce portals, and a favorable economic environment for small businesses to thrive [3]. It also created a digital Cape Town online market for SMMEs without websites [31].

In this context, digital platforms are understood not merely as tools but as governance infrastructure that mediates how policy interventions translate into firm-level outcomes [32,33]. Platform governance operates through specific mechanisms—such as onboarding requirements, eligibility criteria, intermediation structures, and visibility rules—that shape which firms can access markets, information, and support. Thus, platform-mediated policy instruments not only reduce coordination and information frictions but also actively structure inclusion and exclusion within entrepreneurial ecosystems. This perspective positions platform governance as a critical layer linking public interventions to observed outcomes across ecosystem domains. This conceptualization complements the market-failure framework by explaining how access to corrective mechanisms is itself governed and unevenly distributed.

According to comparative studies, ecosystem-oriented approaches generally outperform generic entrepreneurship promotion because they combine rapid financial relief with targeted investments in digital capabilities and inclusive governance [4,28]. Based on this, we develop two guiding propositions for our empirical investigation.

P1: Short-term survival constraints for SMMEs should be significantly reduced by crisis measures that directly address liquidity and labor retention, such as grants, tax breaks, or salary subsidies [1].

P2: Where digital gaps create binding constraints, resilience should be enhanced by digitalization-oriented support that improves enterprises' technological competence and access to online markets [4,27].

In both situations, targeting, accessibility, and connection with other areas of the ecosystem are just as important to effectiveness as instrument design.

Our conceptual framework is summarized in Figure 1. Crisis shocks such as COVID-19 highlight and amplify institutional and market flaws that constrain SMMEs. Implemented within multi-level governance structures, public crisis interventions aim to ease these constraints using a range of tools (financing, regulation, digital infrastructure, skills). The six domains of the entrepreneurial ecosystem [21,22] mediate their impacts by determining which failures are addressed, for whom, and with what distributional consequences.

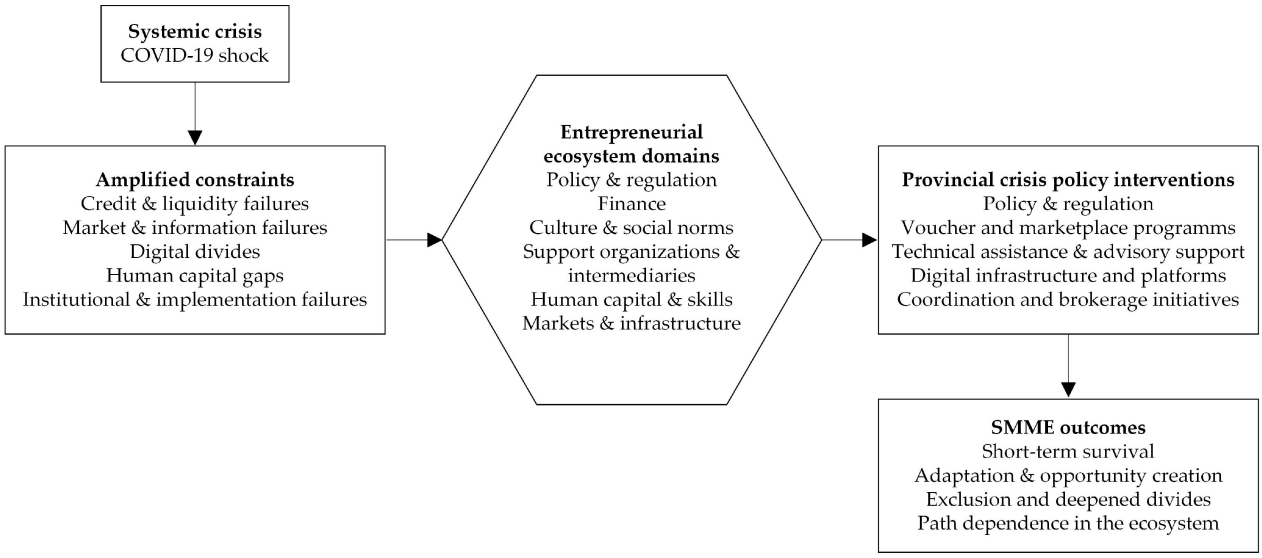


Figure 1. Conceptual framework linking crisis-induced failures, ecosystem domains and provincial interventions. Source: Compiled by authors.

2.4. Platforms as Governance Infrastructure in Crisis Response

Digital platforms increasingly function as governance infrastructures rather than neutral marketplaces [16,17]. Through design choices such as onboarding rules, eligibility criteria, data access controls, and mechanisms for reputation or visibility, platform owners act as quasi-regulators, shaping access, participation, and value distribution [34].

For clarity, we use platform governance terminology consistently and systematically. We define onboarding as the process by which firms are admitted to platform-mediated systems, including registration and verification requirements. Access refers to the ability to use platform-mediated resources or participate in support mechanisms after admission. Intermediation refers to the role of platforms or ecosystem actors in facilitating transactions, information flows, and coordination between firms and markets. Visibility describes how firms are represented, ranked, or made discoverable within platform environments. Together, these elements constitute governance mechanisms that structure participation and shape outcomes of inclusion and exclusion.

In crisis contexts, platform-mediated instruments—such as digital vouchers, e-marketplaces, or municipal online portals—can reduce coordination costs and accelerate transactions. However, research suggests that centralized, data-driven governance may

privilege already capable firms and amplify exclusion for micro or informal enterprises unless complemented by ecosystem intermediaries and tailored public support [20,35].

Conceptually, this extends Isenberg's ecosystem model by adding a platform governance layer. Rather than viewing ecosystem domains as static contextual elements, we interpret them as channels through which platform rules—eligibility, visibility, data access, and coordination mechanisms—translate crisis policy into differentiated outcomes. The matrix thus becomes a governance outcomes map rather than a descriptive inventory.

3. Policy and Institutional Context: Western Cape and South Africa

3.1. South African SMME Support Architecture During COVID-19

Fiscal, monetary, and regulatory measures, such as tax deferrals, credit guarantees, sectoral relief funds, and wage support through the Temporary Employee/Employer Relief Scheme (TERS), formed part of South Africa's national response to the economic effects of COVID-19 [1,28]. Despite these initiatives, empirical research indicates that many SMMEs struggled to access relief schemes due to complex and demanding application processes, limited awareness, and administrative delays, particularly with palliative funds intended for small firms [1,36]. The 16 participants in the initial study concluded that "not enough was done by the local government" to reduce stress for SMMEs during the pandemic [3]. Support was often insufficient, unevenly distributed, and poorly targeted, reinforcing rather than resolving institutional failures in access and trust [4].

Micro, informal, and rural businesses, which often fell outside formal schemes or lacked the documentation and banking links required to qualify, faced particularly severe business challenges [5,13]. Therefore, although national policies acknowledged the significance of SMMEs, implementation flaws left many businesses vulnerable to market disruptions and liquidity shocks, as demonstrated by participants' overall sentiment in the 2024 research [3].

3.2. Western Cape's Ecosystem-Oriented Provincial Response

The Western Cape government adopted a more explicitly ecosystem-oriented strategy in this national context. The province had supported high-tech and knowledge-intensive entrepreneurship even before the pandemic by fostering a dense network of actors, including Silicon Cape, CiTi, LaunchLab, Start-up Bootcamp, and Wesgro [10,37]. To promote remote work and digital adoption during COVID-19, the Western Cape Recovery Plan and related initiatives positioned SMME support within this ecosystem. They also branded the province as "Africa's tech capital" and collaborated with organizations such as Wesgro, the Digital Economy Unit, and technology hubs [10,37,38].

The Western Cape C-19 Business Relief Fund, the Wine Workers Support Stipend, and sectoral relief programs for arts, culture, and heritage were among the specific tools that the WCG introduced concurrently [37]. To assist the local economy, the province implemented policies to expedite environmental approvals, attract investment, and boost township economies through voucher programs connecting neighborhood non-profits and schools to spaza shops, which are informal vendors in nearby townships, in addition to several health policies and programs [39–41]. However, qualitative data from SMME owners indicate that gaps in access, scale, and continuity of support persisted, and many still believed that the WCG "did not do enough" despite these interventions [1,10]. These tensions drive our more detailed failure-focused study.

4. Data and Methods

4.1. Original Qualitative Study and Survival Framework

A qualitative study investigating why certain SMMEs in the Western Cape survived the COVID-19 epidemic while others did not provides the empirical basis for this article [10]. Using snowball sampling, sixteen business owners from various industries—including food, hygiene services, the arts, the beauty industry, the fuel sector, training providers, hospitality, financial services, and tourism—were selected, and in-depth semi-structured interviews were conducted [3,10]. Twelve key themes relating to survival characteristics, including resilience, creativity, networking, digital adoption, and the perceived benefits of government interventions, were identified [2,3] after data were manually coded using the "research onion" approach [42].

The coding process followed four steps. First, interview transcripts were reviewed in full to identify segments related to constraints, adaptation strategies, and policy interactions. Second, relevant excerpts were coded according to the five failure categories. Third, these coded segments were mapped onto the corresponding ecosystem domains to construct the analytical matrix. Fourth, patterns were identified across cases by comparing the frequency and consistency of coded themes. This structured procedure ensured that interpretation remained grounded in the data and aligned with the theoretical framework.

To enhance analytical consistency, coding was conducted iteratively, with initial coding decisions reviewed and refined through repeated comparison across transcripts. Discrepancies in interpretation were resolved through discussion and re-evaluation of the underlying evidence, ensuring that coding categories were applied consistently across cases. In addition, particular attention was given to segments on platform access, digital intermediation, and market visibility, enabling an assessment of how platform-mediated instruments influenced inclusion and exclusion outcomes.

Although formal inter-rater reliability metrics were not used, coding consistency was ensured through independent coding, reconciliation, and iterative agreement-building. Initial coding decisions were compared across transcripts, and discrepancies were resolved through discussion and re-evaluation of the underlying evidence. This process enhanced analytical consistency and was appropriate for a theory-driven qualitative design. This approach aligns with established practices in qualitative research, where reliability is achieved through transparency and iterative validation rather than statistical measures.

The analytical matrix was constructed directly from the coding procedure. Each coded excerpt was assigned to one of the five failure categories and then mapped to the corresponding ecosystem domain, resulting in a structured 5×6 matrix. Outcomes were classified into three categories—acceleration, partial reduction, and exclusion—based on the observed extent to which specific constraints were alleviated in each case.

Acceleration refers to situations in which interventions enhanced existing capabilities or created new opportunities; *partial reduction* indicates limited or uneven alleviation of constraints; and *exclusion* captures cases in which firms were unable to access and benefit from platform-mediated mechanisms. These classifications were derived through cross-case comparison, identifying consistent patterns across multiple interviews rather than isolated observations. This approach ensures that the matrix reflects empirically grounded patterns and remains anchored in the theoretical framework.

All six of Isenberg's ecosystem domains were, at least in theory, present in the Western Cape during the pandemic, according to the initial analysis, which also suggested a survival strategy for SMMEs facing a crisis such as a pandemic, based in part on resilience theory [10,21].

4.2. Theory-Driven Secondary Analysis

In this study, we conduct a secondary, theory-driven re-analysis of the current dataset and related policy papers. Specifically, we develop a two-dimensional coding framework: (1) the six ecosystem domains identified by Isenberg (policy, finance, culture, supports, human capital, and markets); and (2) the five families of crisis-amplified failures previously identified [1,4]. The 12 themes from the original coding guide and excerpts from interviews are mapped onto this matrix to illustrate where entrepreneurs' experiences indicate that certain failures were mitigated, altered, or overlooked by ecosystem actors and public initiatives [3]. In this re-analysis, digital marketplaces and voucher schemes are treated as platform-mediated policy instruments. We therefore examine not only whether interventions existed, but also how their governance features—access rules, eligibility, information transparency, and intermediary roles—conditioned participation outcomes, in line with recent platform governance literature.

The 5×6 matrix is not used as a classificatory checklist but as an analytical tool to trace how platform-mediated interventions altered participation thresholds. We examine which combinations of failure types and ecosystem domains produced inclusive outcomes, partial mitigation, or exclusion. In this sense, the matrix operationalizes platform governance effects within a regional entrepreneurial ecosystem.

The secondary coding procedure employed an organized, iterative methodology. Initially, each author assigned codes independently to sections on finance, markets, digital tools, institutions, and human capital after rereading all interview transcripts and field notes. Next, the five failure types listed in Table 1 were developed by reconciling these codes. Then, we re-coded all relevant sections using a coding matrix that combined these failure types with Isenberg's six ecological domains. Coding disagreements were discussed until consensus was reached. This procedure enhances the consistency and transparency of the relationship between qualitative evidence and the proposed analytical framework, but it does not claim statistical reliability.

We examine the Western Cape Recovery Plan, WCG circulars, publicly available data on relief funding and programs, and relevant national policy papers to correlate perspectives with formal policy design [8,39]. We investigate whether and how observed interventions align with Isenberg's domains and whether they plausibly address the shortcomings identified in the broader COVID-19 SMME literature. The aim is explanatory mapping at the ecosystem level rather than causal estimation at the firm level. This analytical approach clarifies how the current article builds on the initial qualitative investigation and examines whether institutional or public actions have affected the local economy. Our re-analysis reorients the same empirical data around a new research question and a different theoretical perspective, whereas the previous publication focused on developing a survival framework and demonstrating the existence of Isenberg's six domains in the Western Cape context. In particular, we highlight institutional and market weaknesses exacerbated by crises and consider the degree to which provincial initiatives have alleviated these constraints at the ecosystem level. The article generates unique insights and avoids simply repeating the original findings by reframing the data in a failure-domains matrix and systematically incorporating comparative policy evidence.

Inductive analysis of the 16 interviews in the initial study produced a survival framework that identified key themes, including relationship capital, financial buffers, and adaptive leadership [10]. Rather than reproducing those results, we use the same qualitative data for a different analytical purpose in this article. Our contribution is to map the perceived consequences of provincial interventions onto a two-dimensional matrix of failure types and ecosystem domains after systematically recoding the data through a market-failure and ecosystem lens. Thus, rather than simply restating earlier survival

factors, our secondary study offers new insights into how specific policy tools interact with binding constraints in the Western Cape entrepreneurial ecosystem.

Rather than estimating causal effects, qualitative design is typically used in economics to detect and analyze binding constraints, such as market and institutional failures. The analysis directly informs public economics and development policy discussions on the appropriate scope and scale of crisis interventions in middle-income, fiscally constrained settings by examining how entrepreneurs experienced credit rationing, information asymmetries, coordination failures, and gaps in social protection.

5. Findings: Addressing Failures Through Ecosystem Elements

5.1. Policy, Institutions and Governance

The WCG's approach presents both significant advantages and disadvantages from an institutional perspective. The Western Cape Recovery Plan [39–41] demonstrated a clear provincial commitment to supporting the entrepreneurial base by outlining a coherent agenda to reduce red tape, increase investment and exports, improve infrastructure, upskill the unemployed, and enhance energy and water resilience. Consistent with suggestions that multi-actor coordination and place-sensitive governance strengthen resilience, the province also engaged in partnerships with ecosystem groups [4,12]. It is therefore essential to distinguish between provincial initiatives, where the WCG had greater discretion but significantly less fiscal capacity, and national interventions, such as TERS and tax deferrals.

However, evidence from both national and provincial sources indicates that many SMMEs encountered difficult application procedures, unclear scoring systems, slow communication, and inconsistent information about available schemes [5,28]. Despite high-profile pronouncements, several interviewees in the initial survey stated they could not obtain assistance or that the administrative burden was too great [10]. Only essential businesses were permitted to remain open during certain lockdown levels in South Africa, in line with national regulations and policies. Serious governance issues consequently restricted access to support mechanisms and market participation, particularly for SMMEs operating in the services sector [3]. According to theme 2 of the original survey, restrictive laws presented significant obstacles for entrepreneurs. By demonstrating commitment and streamlining certain processes, WCG initiatives substantially addressed institutional failures as defined by our failure taxonomy; however, significant access and information gaps remained.

Viewed through the platform governance lens, institutional failures persisted not only because of insufficient policy intent but also because access rules and administrative procedures served as de facto gatekeeping mechanisms. Governance opacity, slow communication, and fragmented coordination effectively raised participation thresholds for smaller and informal firms.

5.2. Finance and Liquidity

The provincial C-19 Business Relief Fund, tax and rate payment holidays, investment flow facilitation, and connections to national programs such as TERS were among the financial measures [3,39]. Unfortunately, there were lengthy wait times before employees who were prohibited from working in South Africa due to policies and regulations during some prolonged lockdown periods received TERS payouts, which further stressed them [3]. Research from around the world indicates that grants, tax breaks, and concessional loans can significantly lower exit risk provided they are substantial and properly targeted [1,13]. However, quantitative research in South Africa shows that relief efforts frequently failed to provide access to the most restricted businesses, particularly micro and informal sectors, and only slightly reduced exit risk [4,36].

Only a small percentage of SMMEs in the Western Cape interviewed stated that provincial grants and payment relief provided the breathing space they needed to pay fixed costs and retain key employees, consistent with P1 [10]. Others relied on private savings, supplier forbearance, or renegotiated terms rather than receiving direct financial support, suggesting that a significant proportion of businesses remained subject to liquidity and credit constraints [1]. As a result, we consider the finance component to be only partially addressed: while some instruments were available and helpful, their scale and inclusivity were insufficient to fully resolve liquidity issues.

Similar patterns were observed across multiple cases, with firms consistently emphasizing the absence of formal financial support and reliance on internally generated resources. As one respondent explained, *"everything was from my own savings. . . no bank loan or government support"*, while another noted, *"I used my own capital. . . no financial institution involved"*. Other participants echoed this sentiment, describing their businesses as entirely self-funded and developed without external financing.

Liquidity support operated through layered governance channels: national wage schemes, provincial funds, and application portals. By simplifying onboarding and verification processes, platform-mediated finance temporarily reduced exit risk. Where access required documentation, digital literacy, or administrative persistence, exclusion persisted. Finance failures thus became access-governance failures.

Overall, the data partially support P1: while some SMMEs' acute liquidity constraints were clearly alleviated by provincial and national measures, many firms continued to face binding financial constraints during and after the lockdown period due to access gaps, administrative delays, and limited scale.

5.3. Markets, Supply Chains and Digital Access

The WCG's digital marketplaces and promotional campaigns served as platform-mediated governance tools. Instead of simply enabling online transactions, these initiatives embedded access rules and visibility structures that determined which SMMEs could access and participate in platform-mediated markets. During strict lockdowns, online portals reduced coordination costs and partially replaced physical market access. However, participation required a minimum level of digital capability, connectivity, and awareness, effectively filtering onboarding and privileging already networked firms.

Platform-mediated interventions operated through specific governance mechanisms that shaped firm participation. In particular, access depended on onboarding requirements, digital readiness, and the ability to engage with intermediary structures such as local organizations or platform operators. Instruments such as the Cape Town online marketplace and voucher-based initiatives not only provided access to markets but also structured how firms were discovered, verified, and connected to customers.

For some firms, digital and platform-mediated channels served as critical survival mechanisms. One participant explained, *"we could still deliver on our online orders. . . that kept us afloat"*, illustrating how digital access reduced market disruption during lockdown conditions. Similar dynamics were observed in platform-mediated service models, where digital channels enabled continued market access and operational flexibility. As one respondent noted, *"I can travel myself and still do my bookings from my phone wherever there is cell phone reception"*, highlighting how platform integration supported continuity even under mobility restrictions.

However, access to such channels was uneven. Informal and micro-scale enterprises often operated entirely outside digital platforms. As one respondent described, *"No paperwork, it is my own little private sideline business. Where my neighbour sell the food on the days that I work as the cashier"*, pointing to structural barriers to formal platform participation

and highlighting exclusion dynamics within the ecosystem. In contrast, some firms adapted through non-digital, locally embedded strategies, relying on physical presence and direct customer interaction rather than platform-mediated demand, which limited their ability to scale and to buffer demand shocks during the crisis.

Interview evidence suggests that these governance mechanisms produced uneven outcomes. Firms with existing digital capabilities or network connections used platform-based channels more effectively, while smaller or informal firms faced barriers to entry and participation. Although digital exclusion was often implicit rather than explicitly stated in interviews, it was consistently inferred from descriptions of informal business practices and the lack of formal registration or onboarding into platform systems. This indicates that platform-mediated policy instruments function not only as coordination tools but also as mechanisms that shape inclusion and exclusion within the entrepreneurial ecosystem. This underscores the importance of platform design and governance in determining the effectiveness and reach of crisis interventions.

The unequal outcomes associated with platform-mediated interventions stem from underlying governance mechanisms rather than technology adoption alone. Specifically, platform-based instruments impose participation thresholds that combine administrative, digital, and organizational requirements. Firms with existing capabilities—such as formal registration, digital literacy, and established networks—can meet these thresholds and translate platform access into improved coordination and market continuity. In contrast, firms lacking these preconditions face compounded barriers: they are excluded not only from platform access but also from the complementary support mechanisms embedded within ecosystem structures. This creates a self-reinforcing dynamic in which initial capability differences are amplified through platform governance, leading to stratified outcomes even when policy instruments are formally inclusive.

According to recent research [4,27], rapid digitalization was essential for resilience internationally, but many SMEs struggled with insufficient digital skills, inadequate infrastructure, and limited ability to use platforms, especially in disadvantaged areas. In line with the province's "tech capital" branding, digital initiatives in the Western Cape appear to have disproportionately benefited already connected, tech-enabled businesses, while more vulnerable businesses continued to face logistical bottlenecks and demand collapse [10,40,41]. As a result, even if the ecosystem's digital components and markets were active, their inclusivity and reach remained uneven. While some participants in the direct client services sector were unable to use access or effectively use platform-mediated channels to provide personal beauty or haircare services, others, such as financial businesses or training providers, found it easy to transition to working from home [3]. Most SMMEs in the Western Cape could not benefit from the WCG's provision of free Wi-Fi and connectivity in the inner city center of Cape Town only [39].

More digitally integrated firms relied on platform-based coordination tools, with one respondent noting, *"I can manage my bookings from my phone wherever I am"*, demonstrating that platform use enabled operational continuity.

Evidence from global labor and development platforms suggests that reputation systems and visibility algorithms may partially mitigate geographic disadvantages but rarely eliminate structural asymmetries [35]. Similarly, in the Western Cape case, digital initiatives reduced transaction frictions for some firms while leaving digitally marginal enterprises at the periphery of platform-mediated markets.

The observed distributional pattern suggests that digital ecosystem activation does not automatically produce inclusion. Instead, governance design—such as visibility rules, communication channels, and intermediary mediation—determined whether market failures were alleviated or stratified.

P2 is supported conditionally. Digital support enhanced resilience when firms could meet platform participation thresholds. However, platform governance design, rather than technology alone, determined distributional outcomes. Without targeted onboarding assistance and intermediary mediation, digital marketplaces risked reproducing pre-existing ecosystem stratification.

The evaluation of Proposition 1 and Proposition 2 is supported by direct interview evidence, providing insight into how firms experienced crisis conditions and policy interventions in practice. For example, several respondents highlighted the lack of external financial support and reliance on internal resources, with one noting *"From my own savings. No bank loan or government grant or any financial institution involved at all"*, while another similarly emphasized that the business was *"self-funded. No loans or debts or banks involved"*.

At the same time, firms adapted operationally during crisis conditions, often using alternative or hybrid mechanisms rather than relying solely on external support. In some cases, this involved shifts in business models or channels, as reflected in statements such as *"I did do deliveries and take outs—so yes, we survive by adapting to the circumstances"*. However, access to these mechanisms remained uneven, particularly for smaller or less formalized businesses. As one respondent described, *"Started out of nothing"*, while another emphasized highly localized and resource-constrained operations, noting, *"I am basically running the business like the owner would. . . I am doing all the day-to-day decisions"*, indicating structural limits to accessing broader ecosystem support mechanisms.

Importantly, the evidence shows that support outcomes were often partial rather than uniform, reflecting differences in sectoral exposure, firm capabilities, and access to platform-mediated mechanisms. This reinforces the interpretation that ecosystem support mechanisms do not operate evenly across firms, but are mediated by underlying structural and institutional conditions.

Taken together, the evidence suggests that platform-mediated interventions operated through a common mechanism: the establishment of participation thresholds. Access to liquidity support depended on administrative and institutional thresholds, such as documentation and application processes, while access to digital markets depended on capability thresholds, including digital literacy, connectivity, and platform readiness.

As a result, P1 and P2 are not independent mechanisms but are structurally linked. When firms met these thresholds, support mechanisms led to effective alleviation of constraints. When thresholds were not met, both financial and digital interventions led to partial or excluded outcomes. This highlights that the effectiveness of crisis policy is determined less by the availability of instruments than by the governance structures that regulate access to them.

5.4. Human Capital, Culture and Networks

In the Western Cape ecosystem, human capital and culture have emerged as significant yet conflicting components. The province has relatively robust formal skills pipelines due to numerous colleges and training facilities, and national wage-support programs helped maintain some employment linkages during lockdowns [3]. However, participants in the original study emphasized that their survival depended mainly on ad hoc problem-solving, peer-to-peer support, and informal learning, rather than on structured support programs [10].

Dense local networks and a "resilience culture" were frequently cited as essential survival resources, with business owners sharing contacts, exchanging information, and, in some cases, collaborating to negotiate with suppliers and landlords [1,36]. This aligns with broader data from Africa, indicating that shortages in official state assistance are partially offset by networking and self-constructed support [4]. Therefore, we interpret human

capital shortcomings in our matrix as being partially mitigated by ecosystem culture and social capital, but only weakly addressed by formal regulation.

From a governance perspective, informal peer networks acted as compensatory intermediaries, partially reducing onboarding barriers. However, reliance on informal culture rather than formal platform support indicates a weak institutional embedding of inclusive governance.

5.5. Synthesis: A Failure-Ecosystem Matrix

Rather than viewing the matrix as a descriptive summary, we interpret it as a platform governance outcomes map. Each cell represents the interaction between a binding crisis failure and the ecosystem channel through which policy was delivered. The analysis identifies three recurring governance patterns: (1) acceleration without deep inclusion, (2) partial mitigation conditional on capability, and (3) persistent exclusion where participation thresholds remained high.

Institutional and access failures remained weakly addressed because governance rules—documentation requirements, application complexity, and fragmented communication—acted as exclusion filters. Digital and market failures were unevenly addressed because platform activation primarily benefited firms already embedded in ecosystem networks. Liquidity failures were partially mitigated, but this mitigation depended on administrative navigation capacity. Human-capital failures were informally mediated rather than structurally redesigned.

We synthesize our evaluation of Western Cape interventions into a summary matrix to compile the empirical insights. Table 2 lists the main gaps that persist, the primary Isenberg ecosystem domains that were activated, and the extent to which WCG methods addressed the constraint for each of the five crisis-amplified failure types. The table provides an organized, comparative overview of strengths and weaknesses across failures and domains, rather than a final rating. This conceptualization informs the policy implications that follow and forms the basis for the comparative analysis in Section 6.

Table 2. Platform governance outcomes of Western Cape crisis interventions.

Crisis-Amplified Failure	Platform Governance Mechanism Activated	Ecosystem Domains Mobilized	Observed Distributional Outcome	Governance Pattern Identified
Liquidity and finance constraints	Application portals; eligibility screening; linkage to national wage schemes (TERS); provincial relief funds	Finance; Policy; Supports	Conditional inclusion: firms able to navigate documentation and digital processes accessed relief; micro and informal firms frequently excluded	Access-mediated mitigation
Demand, supply chain and market failures	Online marketplaces; digital promotion campaigns; voucher circulation mechanisms	Markets; Supports; Policy	Stratified inclusion: digitally capable and networked firms improved market reach; offline and rural firms remained marginalized	Acceleration with stratification
Digital and technological gaps	E-commerce portals; tech hubs; training initiatives; free Wi-Fi (limited geographic scope)	Digital; Human capital; Supports	Capability-dependent resilience: benefits concentrated among firms with pre-existing digital literacy and connectivity	Capability-threshold governance
Institutional and policy failures	Administrative procedures; scoring criteria; intergovernmental coordination channels	Policy; Institutions; Culture	Persistent exclusion: opaque criteria, slow communication, and fragmented national–provincial alignment functioned as de facto gatekeeping	Bureaucratic gatekeeping regime
Human capital and organizational constraints	Informal peer networks; ecosystem intermediaries; limited formal training schemes	Human capital; Culture; Supports	Informally mediated adaptation: survival supported through social capital rather than structured platform support	Compensatory network governance

Source: Compiled by the authors.

6. Comparative Discussion: Western Cape in Global Perspective

6.1. Comparing Ecosystem-Oriented Crisis Responses

The Western Cape's response addressed some major shortcomings, but did so inconsistently across domains, as shown in Section 5. We compare this pattern with more comprehensive data on COVID-19 SME policies and entrepreneurial environments to place it in a global context.

These international cases can be interpreted as distinct platform governance regimes. China relied heavily on mobile payment and digital voucher infrastructures embedded in dominant platforms, enabling rapid scale but concentrating coordination power [17,43]. Organisation for Economic Co-operation and Development (OECD) economies combined fiscal transfers with regulatory simplification, often mediated through digital one-stop portals [44]. In middle-income contexts, platform-mediated tools are typically more experimental and resource-constrained, increasing the importance of ecosystem intermediaries.

According to OECD global reviews, most governments responded to COVID-19 with a recognizable "SME policy package" that included wage subsidies, tax and social contribution relief, liquidity support (grants, subsidized loans, guarantees), and temporary regulatory easements such as insolvency moratoria and streamlined procedures [45]. These reviews show a strong early emphasis on emergency liquidity across more than 60 countries, followed by a gradual shift towards solvency support and recovery measures. More transformative goals, such as digitalization, innovation, and the green transition, were initially less prominent [44].

Four pillars of post-pandemic recovery have been identified in Europe thorough evaluations of SME policy responses: (1) emergency structural support (liquidity schemes, guarantees, tax relief); (2) regulatory and governance reforms for SMEs (simplification, digital one-stop shops); (3) investment in training and skills; and (4) targeted support for innovation, digitalization, and the green transition, often associated with the NextGenerationEU instrument and cohesion policy [46,47]. In other words, the new standard in developed economies combines at least some environmental and social upgrading with medium-term capability growth and short-term protection. In the United States, the federal CARES Act and the Paycheck Protection Program (PPP) provided unprecedented liquidity to small businesses, often described as the backbone of the US economy [48].

China exhibits a similar pattern, though with a greater reliance on regional, place-based tools. Research on Chinese policy responses shows that in large-scale city campaigns, central and local governments implemented tax exemptions, social security holidays, subsidized credit, and rent relief alongside widespread use of digital coupons and consumption vouchers distributed via mobile payment platforms [43,49]. Evidence from China and other countries indicates that during COVID-19, digitalization policies and platform-based stimulus tended to benefit businesses with prior access and platform readiness, while smaller and less digitized businesses remained excluded from effective platform access, thereby widening the existing "digital divide" [50–52].

Recent research highlights that local governments are increasingly taking on orchestration roles within city and regional ecosystems worldwide, channeling national funds, forming coalitions, and focusing support on ecosystems or neighborhoods rather than solely on sectors [53,54]. Research on social innovation ecosystems during COVID-19 identifies three recurring mechanisms: digital platforms, adaptive governance arrangements, and community-based resilience practices such as mutual aid, informal networks, and local experimentation [55,56]. These findings are consistent with research on crisis-focused entrepreneurship, which shows how startups and SMEs leveraged networks, ecosystem resources, and bricolage to address state capacity gaps [57,58].

In this context, the Western Cape presents a hybrid model. Its response, which includes provincial relief funds, links to national soft-loan programs and wage support, and some regulatory easing, reflects the global pattern of liquidity-oriented but fiscally limited support [1]. At the same time, the province has implemented more overtly ecosystem-style tools in collaboration with the Western Cape Economic Development Partnership and other intermediaries, including digital marketplaces and voucher programs for community kitchens and spaza shops in low-income areas. These programs closely resemble global digital coupon experiments, but they are substantially smaller in scale and prioritize local social protection over macro-level stimulus.

Comparative evidence suggests three stylized platform governance regimes in crisis contexts: (1) scale-intensive platform regimes (e.g., China), characterized by rapid voucher deployment through dominant digital infrastructures; (2) fiscally expansive but administratively standardized regimes (OECD), combining digital portals with large transfers; and (3) resource-constrained hybrid regimes (Western Cape), where experimental platform tools coexist with limited fiscal capacity and fragmented access. This typology forms the basis for a more detailed evaluation of the province's relative advantages and disadvantages in Section 6.2.

In conclusion, the Western Cape appears to be an ecosystem that has adopted some cutting-edge tools (digital vouchers, ecosystem partnerships) compared to OECD and Chinese benchmark cases. However, it operates under more stringent fiscal, administrative, and political constraints, with little capacity to implement significant wage subsidies or transformative green investments at the provincial level [44,49]. Understanding the achievements and structural constraints of its crisis-era ecosystem strategy depends on this comparative perspective.

Across these cases, three analytical dimensions clarify similarities and differences in crisis-response approaches. First, the scale of intervention distinguishes fiscally expansive regimes (e.g., OECD countries), which combine large-scale financial support with standardized digital access, from resource-constrained contexts such as the Western Cape, where interventions are more targeted and limited in scope. Second, the mode of platform governance varies between centralized models (e.g., China), where dominant digital infrastructures enable rapid and coordinated deployment, and more fragmented or hybrid systems, where multiple actors mediate access and participation. Third, inclusivity outcomes differ systematically depending on how access conditions are structured: while all regimes rely on digital intermediation, those with lower onboarding thresholds and stronger intermediary support tend to achieve broader participation, whereas higher thresholds reinforce the exclusion of smaller and informal firms. Taken together, this comparison highlights that differences in scale, governance structure, and access design—not the presence of digital tools alone—explain variation in crisis-response effectiveness across contexts.

6.2. Relative Strengths and Gaps of Western Cape

The Western Cape's ecosystem response to COVID-19 can be described along five dimensions—networking, digitalization, fiscal and labor protection, inclusiveness, and green orientation—which are already implied in Sections 2 and 5 using the comparative evidence presented above.

First, the province receives high marks for ecological coordination and networking. An institutional framework for consultation, information sharing, and rapid experimentation was already in place when the crisis struck due to long-standing relationships with organizations such as Silicon Cape, CiTi, Wesgro, and other university-affiliated incubators [3,37,38]. This aligns with data from city-regions in North America and Europe, where

intermediary organizations and dense governance networks enabled more adaptable and cooperative pandemic responses [53,55].

Second, the Western Cape aligns itself with cities such as Shenzhen and many EU regions that have leveraged the crisis to drive the digital economy by placing a clear strategic priority on digitalization. Global trends in the use of platforms and data to sustain economic activity are reflected in initiatives such as online markets for small firms, digital promotion efforts, and support for remote labor. However, as in China and several regions of Europe, these policies tended to favor businesses that were already somewhat connected and structured, leaving more traditional and informal SMMEs on the periphery of digital transformation [44,49].

Third, the national government and fiscal framework in South Africa continue to impose restrictions on the Western Cape regarding worker protection and finances. Provincial authorities in South Africa have limited tax and spending powers, unlike high-income OECD countries or the EU, which have implemented extensive wage subsidy programs and comprehensive solvency assistance [44,46]. As a result, the province relied on the national TERS mechanism, targeted stipends, and relatively small relief funds [1]. From an ecosystem perspective, this indicates that although some liquidity failures were mitigated, overall risk-sharing remained lower than in benchmark economies.

Fourth, the Western Cape demonstrates inconsistent but partial inclusivity. Programs specifically targeting informal and microbusiness groups, which are frequently excluded from conventional SMME support, included digital vouchers for spaza stores, the Spaza Shop Support Fund, and food relief connections with township retailers. These are similar to place-based "ecosystem democracy" initiatives in social innovation ecosystems, where local government and community organizations collaborate to create interventions for disadvantaged populations [54,55]. However, the limited scope and durability of these programs, along with SMMEs' ongoing complaints about administrative obstacles, suggest that inclusion gains were genuine but fragile [1,4].

Lastly, the Western Cape's support for SMMEs remains very limited in its green focus. The Western Cape's crisis measures were mainly framed around health, survival, employment, and basic service continuity, whereas EU recovery strategies explicitly integrate SMMEs into broader climate and green transition agendas, and cities like Shenzhen link digital policy to long-term low-carbon development [45,47,50]. Instead of being a key component of SMME support, environmental upgrading is mostly regarded as an indirect co-benefit of digitization and infrastructure initiatives.

When these factors are combined, the Western Cape can be described as an ecosystem with high levels of networked digitalism but low levels of inclusive protection and greening. It is more experimental and partnership-driven than many middle-income regions, but far more resource-constrained and unevenly covered than global "frontrunners". It occupies a position midway between Chinese-style large-scale digital stimulus and OECD-style fiscally substantial safety nets. The article's primary contribution lies in this comparative profile. The analysis goes beyond a single-case narrative, demonstrating which failures are addressed, which ecosystem domains are engaged, and which trade-offs remain structurally embedded in middle-income regional ecosystems by situating the Western Cape within a global typology of crisis-era ecosystem policy [45,47,50,53].

In conclusion, the Western Cape can be described as an entrepreneurial ecosystem that is networked, digitally focused, and financially constrained. Although it has made significant progress towards platform-based support and mobilizes dense local networks and intermediaries, it lacks the industrial policy capacity of some developing economies and the large-scale fiscal resources of high-income governments. The article's main contribution is this profile, which demonstrates what a sub-national ecosystem can and cannot achieve

in a systemic crisis while higher levels of government control most macroeconomic and budgetary levers.

7. Policy Implications for South Africa and Other Middle-Income Economies

Effective crisis-era platform governance requires deliberate design of onboarding thresholds, verification mechanisms, visibility algorithms, and intermediary partnerships. Without these adjustments, ecosystem mobilization alone cannot prevent stratified participation outcomes.

Economically, the Western Cape scenario highlights that, under strict budgetary constraints, the crisis strategy for SMMEs focuses on minimizing welfare losses from market and institutional failures. Some of these shortcomings can be addressed directly by provincial authorities, for example, through targeted loan guarantees, information and broking services, or digital infrastructure. However, they must invariably make trade-offs between the scope, depth, and duration of support. Understanding these trade-offs helps explain why, despite ambitious policy goals, provincial interventions often remain uneven and partial.

The analysis suggests three broad policy implications. First, platform-mediated crisis policy must explicitly address onboarding barriers. Simplified eligibility rules, assisted registration, and local intermediary support are essential to prevent informal or digitally weak firms from being excluded from platform access.

Second, governance transparency—clear scoring criteria, communication, and dispute resolution—reduces institutional failures embedded in platform design. Without such transparency, digitalization risks amplifying distrust rather than alleviating access gaps.

Third, sub-national governments should treat digital marketplaces not as temporary emergency tools but as long-term governance infrastructures, aligning platform rules with ecosystem inclusion goals rather than focusing solely on efficiency and scale.

To make these recommendations operational in the Western Cape context, platform-mediated policy design should include three concrete implementation steps. First, onboarding procedures should be simplified through assisted registration models, such as mobile-based enrollment, in-person support points in township areas, and partnerships with local intermediaries to help informal firms meet documentation requirements. Second, access rules should be complemented by capability-building measures, including targeted digital training, platform navigation support, and low-bandwidth or offline-compatible interfaces to reduce entry barriers for digitally constrained firms. Third, transparency mechanisms should be institutionalized through clear eligibility criteria, real-time application tracking, and feedback channels, ensuring that firms understand both how to access support and why applications succeed or fail. These measures would shift platform governance from passive filtering mechanisms to actively inclusive infrastructure design.

These observations can be summarized in a straightforward model of ecosystem policy as per Figure 1. Five groups of crisis-amplified failures—liquidity and finance, markets and supply chains, digital gaps, institutional and policy deficiencies, and human-capital and organizational constraints—are shown on the left. Public interventions then use a limited range of policy options, including financial instruments, digitization initiatives, skills and advisory support, fiscal relief measures, and governance reforms. The SMME survival and resilience outcomes on the right-hand side of the model are ultimately shaped by these instruments, which in turn activate various configurations of Isenberg's six ecosystem domains. It is clear where existing interventions are focused and where additional levers are needed to address the remaining gaps when the Western Cape is positioned within this failure–tools–domains–outcomes chain.

8. Limitations and Avenues for Future Research

This study has several limitations. A key limitation is survivorship bias, as the analysis is based on sixteen firms that remained operational during and after the COVID-19 period. This reflects the dataset's origin in a broader doctoral research project focused on business survival. As a result, the findings primarily capture the experiences of relatively resilient firms and may underrepresent the severity of constraints faced by firms that exited the market.

This has important implications for interpretation. In particular, conclusions about access to support mechanisms, including platform-mediated instruments, should be understood as conditional on survival. Firms that lacked the capabilities, resources, or access needed to adapt—potentially including those excluded from digital or platform-based channels—are not represented in the sample. Consequently, the results may overestimate the reach and effectiveness of certain interventions. Future research could address this limitation by incorporating data on firm exit and failure to better capture the full distribution of outcomes.

Another limitation is the study's focus on a single province and a relatively small sample of sixteen business owners, all of whom survived the immediate crisis. As a result, our qualitative evidence reflects the perceptions of generally resilient and resourceful firms, rather than those of enterprises that exited or remained entirely informal. Furthermore, the interview data were originally collected for a different purpose and are reused in this secondary analysis. Although we employed a controlled recoding process, there remains a risk of confirmation bias in interpreting failures and ecological domains. Given these constraints, our findings should be regarded as analytically rich but not statistically representative insights into the interactions between entrepreneurial ecosystems and provincial interventions during the crisis.

In addition, the findings are influenced by multilevel governance dynamics, in which key fiscal and regulatory levers remain under national control, limiting the scope of provincial interventions. Furthermore, the Western Cape's relatively limited fiscal capacity limits the scale and duration of support measures, potentially affecting the effectiveness and generalizability of the observed ecosystem responses.

Future research could address these limitations by integrating panel or quasi-experimental methods with ecosystem mapping, thereby providing more accurate estimates of the effects of various instruments on investment, employment, and survival [24]. Cross-country comparisons between middle-income regions or cross-provincial comparisons within South Africa could further illuminate how institutional capability and policy mix influence ecosystem resilience. The analysis could also be broadened to include regional and global value chains in addition to local ecosystems by incorporating supply chain and trade data.

9. Conclusions

This study shows that crisis policy increasingly operates through combined platform-based and governance-based infrastructures. The Western Cape case demonstrates that the key policy question is not only whether support exists, but also how access is structured. The 5×6 matrix developed here reframes entrepreneurial ecosystem analysis as a governance outcomes framework, revealing how digital and institutional design choices mediate resilience, stratification, and inclusion in middle-income regional contexts.

More broadly, the Western Cape case illustrates what an entrepreneurial ecosystem in a middle-income region with limited financial resources can and cannot achieve during a systemic crisis, especially in assisting the SMME sector. Although ecosystem groups and provincial authorities were able to experiment with new digital tools and address some

of the most severe failures, their efforts remained constrained by multi-level governance frictions, limited fiscal space, and structural inequities. Policymakers or local governments designing future crisis responses that are more efficient and equitable for SMMEs should recognize the limitations of these platform-based business models when implementing policies that facilitate platform-mediated exchanges, interactions, and transactions under defined access conditions between interdependent groups.

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Abbreviations

The following abbreviations are used in this manuscript:

GDP	Gross domestic product
OECD	Organisation for Economic Co-operation and Development
PPP	Paycheck Protection Program
SMEs	Small and medium enterprises
SMMEs	Small, medium, and micro enterprises
TERS	Temporary Employee/Employer Relief Scheme
WCG	Western Cape Government

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