
Entrepreneurial finance, news media narratives, and productive entrepreneurship in Rwanda's entrepreneurial ecosystem: an entrepreneurial resourcefulness perspective

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Abstract

Purpose – This multi-study paper investigates how entrepreneurial financing practices and news media narratives shape entrepreneurial resourcefulness and productive entrepreneurship within Rwanda's orchestrated entrepreneurial ecosystem.

Design/methodology/approach – Study 1 examines survey data of entrepreneurial financing, while Study 2 assesses news media narratives via quantitative linguistic analysis.

Findings – Local entrepreneurs demonstrate resourcefulness by preferring informal finance, thus enabling Baumolian productive entrepreneurship (Study 1). Conversely, elite neoliberal narratives articulated by news media promoted top-down globalization rhetoric, potentially enabling unproductive entrepreneurship (rent-seeking) and contradicting grassroots practices in the Rwandan entrepreneurial ecosystem (Study 2).

Originality/value – The study advances understanding of how entrepreneurial finance, news media, and entrepreneurial resourcefulness co-constitute (productive) entrepreneurship in African entrepreneurial ecosystems, with broader implications for entrepreneurial policy and practice.

Keywords Entrepreneurial ecosystems, Entrepreneurial finance, Entrepreneurial resourcefulness, News media, Rwanda

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1. Introduction

Entrepreneurial ecosystems (EEs) – “a set of interdependent actors and factors . . . [that] enable productive entrepreneurship [PE]” (Stam, 2015, p. 1765) – are composed of both resource endowments (such as entrepreneurial finance and talent) and institutional arrangements (such as culture and networks). At the same time, the concept of entrepreneurial resourcefulness has gained traction as a lens to understand how entrepreneurs adapt to resource constraints, especially in volatile and uncertain environments (Fisher *et al.*, 2020; Michaelis *et al.*, 2020; Morris and Tucker, 2023; Williams *et al.*, 2025). Entrepreneurial resourcefulness (ER) is defined as behavioral and cognitive mechanisms, such as bricolage, hustle, and improvisation, that allow entrepreneurs to creatively mobilize and reconfigure resources (Baker and Nelson, 2005; Hertel *et al.*, 2021; Scheidgen *et al.*, 2025), along with entrepreneurial finance mechanisms such as bootstrapping (Hertel *et al.*, 2021; Sarfo *et al.*, 2024). Together, EEs and entrepreneurial resourcefulness scholarship provide a useful architecture for exploring entrepreneurial outcomes across institutional contexts.

However, much of the empirical literature on EEs and entrepreneurial resourcefulness is grounded in high-income, Western settings, overlooking the informal, hybrid, or *orchestrated* nature of EEs in low-income economies, where state coordination and informality often co-exist (Isenberg, 2010; Williams and Vorley, 2015; Harima *et al.*, 2024; Santos *et al.*, 2023). In such settings, informal finance constitutes a core expression of ER, as entrepreneurs creatively mobilize resources through trust-based arrangements such as family loans, trade credit, and rotating savings groups rather than conventional capital markets (Williams *et al.*, 2021; Zhang *et al.*, 2025). These practices illustrate how ER extends beyond “getting more from less” to encompass bricolage, bootstrapping, and community mobilization strategies that substitute for absent formal institutions (Hertel *et al.*, 2021; Sarfo *et al.*, 2024). Second, although ER has been conceptualized at the individual level, less is known about how it interacts with broader EE structures and narratives – especially under conditions of institutional weakness and news media influence (Rawhouser *et al.*, 2025; Lange *et al.*, 2024; Guéneau *et al.*, 2022).

These gaps obscure how entrepreneurial actors in constrained environments adapt their financial behavior and how public narratives either enable or suppress adaptation. Addressing these gaps requires a context in which both EE structures and entrepreneurial behaviors are shaped by forces distinct from those in high-income settings – particularly where informality, EE orchestration by Government-backed intermediaries, and news media governance converge. Such a context would allow the authors to observe how structural features of the EE interact with adaptive resourcefulness strategies under conditions of institutional constraint and contested narratives.

Rwanda’s EE is neither emergent nor organic; rather, it has been deliberately orchestrated by the state in a post-genocide, post-conflict context that combines top-down policy interventions with a robust informal economy (Nkusi *et al.*, 2020; Isenberg, 2010; O’Shea *et al.*, 2021). This configuration reflects what Harima *et al.* (2024) describe as an orchestrated ecosystem, wherein anchor organizations take purposeful action to coordinate networks and resources for value creation. Unlike more haphazard EEs, Rwanda’s is *de novo*, with Government policy actively shaping the external environment to foster entrepreneurship (Isenberg, 2010; O’Shea *et al.*, 2021). Yet this formal, policy-driven EE co-exists with deeply embedded informal practices. Informal finance (IF) is broadly understood as financial transactions that occur outside the regulatory oversight of monetary authorities and, as mentioned above, spans trust-based arrangements such as family and friend loans, rotating savings groups, trade credit, and customer advances (Adams and Fitchett, 1992; Darbi *et al.*, 2018; Brixiová *et al.*, 2020). These channels provide essential liquidity in contexts where collateral and formal banking access remain limited, underscoring their embeddedness in Rwanda’s EE (Peters *et al.*, 2016; Zahra, 2021; Zambrano *et al.*, 2023).

The co-existence of state-led EE orchestration and bottom-up financial resourcefulness is rare and underexplored in the entrepreneurship literature. Moreover, Rwanda’s history

highlights the politicized role of the news media, from inciting violence during the 1994 genocide to the strict regulation of journalism in the post-conflict period (Nzitatira *et al.*, 2024). This combination of post-conflict state-building, *de novo* EE orchestration, formal-informal hybridity, and news media-saturated governance makes Rwanda a unique and consequential case. By situating entrepreneurial finance and news media within this orchestrated EE, the study explains how productive entrepreneurship is enabled in Rwanda alongside unproductive (rent-seeking) entrepreneurship promoted by news media, and offers insights for other low-income economies where governments attempt to engineer EEs under conditions of institutional weakness and contested narratives.

Accordingly, the purpose of this multi-study paper is to investigate how entrepreneurial financing practices and news media narratives shape ER and productive entrepreneurship within an orchestrated EE. The paper analyzes survey data on entrepreneurs' financial choices during the COVID-19 pandemic alongside a linguistic analysis of news media narratives from the same period. This approach captures both bottom-up resource mobilization and top-down narrative framing, advancing understanding of how entrepreneurial resourcefulness shapes development in orchestrated entrepreneurial ecosystems.

This paper makes two key theoretical contributions. First, it integrates the EE framework (Stam and Van de Ven, 2021; Leendertse *et al.*, 2022) with the construct of entrepreneurial resourcefulness (Williams *et al.*, 2025; Rawhouser *et al.*, 2025; Fisher, 2024) to explain the relationship between individual-level adaptation and ecosystem-level narratives. Accordingly, it extends Baumol's (1996) typology of productive and unproductive entrepreneurship into the domain of news media influence and IF. Second, the paper contributes to emerging scholarship on orchestrated EEs (Harima *et al.*, 2024; Santos *et al.*, 2023; O'Shea *et al.*, 2021) in the unique context of sub-Saharan Africa by showing how state and news media actors can simultaneously enable and undermine productive entrepreneurship through contradictory messaging, thus complicating the assumed coherence of orchestrated EEs.

2. Theoretical framework

2.1 Entrepreneurial ecosystems: the context

Although Stam's (2015) definition broadly refers to actors and factors as the two key components of EEs, other scholars propose various elements, for example, the systems model of Stam and van de Ven (2021). While other work examined legitimacy in terms of signaling theory (Donaldson *et al.*, 2025) and measuring EEs (Leendertse *et al.*, 2022).

Much extant empirical evidence on EEs is contextually Western-centric. However, research is emerging on EEs in Africa (e.g. Kansheba, 2020; Nkontwana and Stam, 2023; Sheriff and Muffatto, 2015). Indeed, a small, but growing number of studies focus on specific national contexts such as Ethiopia (Biru *et al.*, 2021), Nigeria (Egere *et al.*, 2024), and other sub-Saharan African countries (see Sheriff and Muffatto, 2015; Madzikanda *et al.*, 2022; Lafuente *et al.*, 2023; Molla and Biru, 2023).

The EEs in many low-income countries and emerging economies may have been *orchestrated* rather than emerging organically. EE orchestration is defined as: "a set of deliberate, purposeful actions undertaken by anchor organizations to coordinate networks and resources to create value from the [entrepreneurial] ecosystem" (Harima *et al.*, 2024, p. 1406). Such orchestration is said to lead to better outcomes in terms of "resource availability", "entrepreneurial outcomes", and "enabling conditions" (Santos *et al.*, 2023).

Stam and van de Ven (2021) propose that institutional arrangements (formal institutions, culture, and networks) and resource endowments (physical infrastructure, demand, intermediaries, talent, knowledge, leadership, and finance) lead to the output: productive entrepreneurship. Their various interconnected *enabling* dimensions comprise resource endowments (seven elements) and institutional arrangements (three elements). Stam and Van de Ven (2021) offer Proposition 1, the mutual interdependence and co-evolution of EE elements, and Proposition 2, where the elements "explain" the level of productive

entrepreneurship, i.e. “entrepreneurial activity”. Moreover, a key EE element, entrepreneurial finance, acts as a catalyst by enabling access to financial resources. Government – through formal institutions – implements policies to establish a supportive framework through regulatory and developmental mechanisms.

2.2 *Entrepreneurial resourcefulness: the process*

Entrepreneurial resourcefulness is a fundamental capability that enables entrepreneurs to operate effectively in resource-constrained environments by creatively mobilizing and reconfiguring available resources (Isenberg, 2010). Entrepreneurial resourcefulness is not only externally manifested in actions (i.e. behavior) but is also manifested through entrepreneurs interpreting and reframing their circumstance(s) to enact resourceful behavior, particularly during times of uncertainty (Fisher, 2024). Moreover, knowledge-related entrepreneurial resourcefulness – through which entrepreneurs overcome financial constraints by expanding informational networks and adapting to changing financial infrastructures – is increasingly recognized as a key driver of success in contexts with weak or inconsistent institutional support (Rawhouser et al., 2025).

Defined as a “social-cognitive process that enables entrepreneurs to creatively mobilize and reconfigure available resources” (Williams et al., 2025), entrepreneurial resourcefulness (ER) is an adaptive mechanism. It draws from multiple theoretical foundations, including social capital theory, effectuation theory, and behavioral self-regulation (Fisher et al., 2020; Williams et al., 2021; Hertel et al., 2021; Zhang et al., 2025; Sarfo et al., 2024; Lange et al., 2024; Morris and Tucker, 2023). Furthermore, ER draws from various constructs including entrepreneurial hustle (Fisher et al., 2020), bricolage (Baker and Nelson, 2005), improvisation (Scheidgen et al., 2025), and bootstrapping (Hertel et al., 2021; Sarfo et al., 2024). These theoretical foundations and constructs collectively explain how entrepreneurs navigate uncertainty and leverage existing resources in non-traditional ways. ER, therefore, involves entrepreneurs engaging in “the generation and deployment of resources to pursue an opportunity” (Lange et al., 2024, p. 115), leveraging networks (Guéneau et al., 2022), or mobilizing IF as a resourcefulness mechanism, including bootstrapping, family and friend loans, trade credit, and microfinance (Williams et al., 2021; Zhang et al., 2025), i.e. the use of “family, friends and fools” (Zahra, 2021).

Accessing IF – the use of informal sources when formal sources are either inaccessible or undesirable (Mpofu and Sibindi, 2022; Webb et al., 2020; van Klyton et al., 2024) – is one approach of ER. Financial resourcefulness is a core aspect of entrepreneurial decision-making, where entrepreneurs navigate capital constraints through inventive financial strategies. Here, IF is a central expression of resourcefulness, reflecting community-based and trust-based mechanisms that substitute for absent formal institutions (Williams et al., 2021; Hertel et al., 2021; Zhang et al., 2025). Resourceful entrepreneurs employ collective financial solutions that enhance their growth and survival. Similarly, digital financial inclusion enables access to funds through non-traditional platforms, helping entrepreneurs navigate financial constraints while promoting business growth (Lu et al., 2022). This finding aligns with Hertel et al.’s (2021) concept of community resourcefulness, which holds that collective financial solutions are beneficial. Beyond individual financial strategies, finance as a resource endowment is embedded in broader EEs. Similarly, Scheidgen et al. (2025) argue that entrepreneurs who leverage both temporary and enduring financial structures can cope with challenges in dynamic environments.

2.3 *Productive entrepreneurship: the output*

Entrepreneurial activity (productive entrepreneurship in Baumolian terms) is enabled by resourceful entrepreneurs in EEs as a productive outcome rather than rent-seeking behavior (unproductive entrepreneurship). Baumol (1996) distinguished productive (value creating via innovation), unproductive (e.g. rent seeking), and destructive entrepreneurship. This distinction is crucial in emerging markets where regulatory frameworks may be ambiguous,

and entrepreneurial success is heavily reliant on informal strategies. [Minniti et al. \(2024\)](#) build on this view by emphasizing that the allocation of entrepreneurial talent is contingent on the broader economic and policy environment, particularly in emerging markets where institutions may be weak or inconsistently enforced. [Acs et al. \(2013, p. 786\)](#) clarify the Baumolian typologies as follows: “productive entrepreneurship (PE) as creating both social and economic value, whereas unproductive (UE) and destructive entrepreneurship create economic value for the entrepreneur but do not result in a net social value creation.” [Stam’s \(2015, p. 1765\)](#) definition of EEs emphasizes the outcome of PE, while [Acs et al. \(2013\)](#) show how PE contributes to EE outcomes (see also, [Nicotra et al., 2018](#)). Three highlighted EE factors in this current study are respectively: entrepreneurial finance, policy, and news media.

3. Integrating EEs, PE/UE, and entrepreneurial resourcefulness

Entrepreneurial financing in emerging economies is shaped by limited financing options and unstable market conditions. Under these constraints, entrepreneurs often rely on internal funding in line with the pecking order theory ([Radja and Pakereng, 2023](#)), while instruments such as trade credit can provide short-term operational flexibility ([Zhang et al., 2014](#); [Ogochukwu and Kasztelnik, 2021](#)). Financing choices are further influenced by sector characteristics, geographic location, and firm-level attributes, which necessitate context-specific approaches to navigating economic turbulence and market failures.

This complexity calls for a detailed exploration using research methods that align with available data. Accordingly, the study adopts a multi-study research design that examines entrepreneurial financing decisions during COVID-19 alongside an analysis of how national news media framed entrepreneurship and economic response in Rwanda. This research design allows generalizations through the collection of extensive data ([Robb and Robinson, 2014](#); [Cowling et al., 2012](#)). While [Butt et al. \(2025\)](#) examine pandemic effects within a single country using survey data alone, multi-study approaches allow broader evaluation of entrepreneurial responses to economic downturns ([Smallbone et al., 2012](#)), including how collateral and financial literacy shape financing choices in Rwanda.

The study integrates EEs, ER (proxied by entrepreneurial finance, including IF), and PE. It illustrates how PE, rather than UE (with its rent-seeking and extractive nature), is enabled, thus leading to the following research questions:

Study 1 RQ. What role did different sources of entrepreneurial finance (as a feature of ER) play in enabling productive entrepreneurship within Rwanda’s orchestrated EE?

Study 2 RQ. How do news media narratives reposition the relationships between entrepreneurial finance, entrepreneurial resourcefulness, and productive entrepreneurship in Rwanda’s entrepreneurial ecosystem?

These RQs integrate the perspectives of [Baumol \(1996\)](#), [Stam and van de Ven \(2021\)](#), and [Williams et al. \(2025\)](#). The study extends [Baumol’s \(1996\)](#) categories of PE and UE in the context of Rwanda, the *framework* of EE and *lens* of ER to infer that bottom-up EE institutional arrangements (culture and informal entrepreneurial finance) enable *endogenous* outputs (via PE in terms of levels of entrepreneurial activity), rather than *exogenous* rent-seeking, extractive UE.

4. Study 1: fieldwork on access to entrepreneurial finance

Much of the extant literature on the impact of the COVID-19 pandemic on entrepreneurs is set in Western contexts (see, e.g. [Sharma et al., 2024](#), for an integrative literature review). Although there is some limited evidence on how African entrepreneurs fared during the COVID-19 pandemic ([Adeola et al., 2022](#); [Eniola et al., 2022](#)), little is known about the

consequences of the pandemic for Rwandan entrepreneurs – especially access to entrepreneurial finance.

4.1 Working hypotheses development

The adaptive capacity of entrepreneurs during the pandemic was critical for financial growth and survival, and demonstrated ER (Fisher, 2024). Moreover, entrepreneurs operating in resource-constrained environments often engage in bricolage (Baker and Nelson, 2005; Fisher, 2012), which significantly influences entrepreneurial financing behaviors within EEs (Koloma, 2021). Both banks and digital solutions can mitigate these challenges by offering structured and accessible financial products to manage liquidity (Lu *et al.*, 2022; Guéneau *et al.*, 2022). In contrast, informal sources of finance include, *inter alia*, rotating savings and credit associations (ROSCAs) or savings circles (Zambrano *et al.*, 2023), and family finance (Peters *et al.*, 2016; Zahra, 2021) in resource-constrained environment such as Rwanda. Networks and trust are important in the African context (Lyon, 2000), especially where institutions are weak (Amoako *et al.*, 2021).

ER, as a social-cognitive process through which entrepreneurs creatively mobilize, reconfigure, and implement financial strategies, helps explain how they make sense of informal financial landscapes (Fisher, 2024). Informality is a defining feature of African EEs (Godfrey, 2011; Simba *et al.*, 2023; Thai *et al.*, 2020), with informal financing mechanisms enabling entrepreneurs to overcome liquidity constraints. Hertel *et al.* (2021) extend this idea through the concept of community resourcefulness, where local social networks act as financial and operational buffers for small businesses, facilitating capital access, knowledge sharing, and market linkages. Therefore, ER and informal sources of finance become mutually reinforcing, despite the pandemic challenging both the scaling and sustaining of these networks (Mamaro and Sibindi, 2022), leading to the following Working Hypothesis (WH)[1]:

- WH1. During the COVID-19 pandemic, formal finance prevailed as the main conduit of entrepreneurial financing decisions within EEs, which reduced entrepreneurs' reliance on IF.

4.2 Data and methods

4.2.1 *The fieldwork sample.* This cross-sectional study investigates the sources of Rwandan entrepreneurs' external finance following the onset of the COVID-19 pandemic to understand how ER was exerted in navigating financial constraints by enquiring about access to finance. Most entrepreneurs are based in the capital city of Kigali and form part of the larger SME population. A dataset was provided by district offices, which rendered a sampling frame of over 7,300 that helped to ensure that the model estimations are generalizable to the larger population, thereby reducing biases.

The authors administered survey questionnaires to examine diverse aspects of access to entrepreneurial finance to differentiate formal and informal sources of credit before and after the pandemic. Survey data were collected during the 2021 lockdowns to compare the current situation with the situation 15 months before the lockdowns. A total of 550 entrepreneurs were sampled (with replacement [2]) applying a simple random sampling model, and the corresponding survey questionnaires were collected [3].

4.2.2 *Simultaneous logistic models and the expectation-maximization iterative algorithm.* Qualitative dependent variable models in the form of logistic regressions were estimated. First, the data was screened, and the variables associated with access to entrepreneurial finance, along with the usual firmographics, were specified. The response variable was binary, which measured whether the entrepreneur had sought external finance from friends; the models included family loans and bank loans as covariates. Next, instrumental variables were employed through simultaneous equations (von Cramon-Taubadel and Saldias, 2014; Eze and

Alugbuo, 2021) to address endogeneity biases typical of qualitative dependent variable models, particularly acute in research on entrepreneurial finance (Baha *et al.*, 2023).

The estimations of these simultaneous equations were performed using Expectation-Maximization algorithms, a general iterative computational approach used to find maximum likelihood estimates (MLEs) in the presence of latent variables or missing data (Bollen *et al.*, 2014; Gelman *et al.*, 2017; McLachlan and Krishnan, 2008). This iterative algorithm is commonly employed in latent variable modelling because it effectively handles response variable discontinuities, akin to incomplete or missing data, a frequent challenge in surveys, particularly those involving entrepreneurs and emerging markets. Due to the informational opacity of the entrepreneurs, standard estimation methods for simultaneous equation models with qualitative dependent variables frequently fail to converge. The aim of applying the Expectation-Maximization algorithms is to optimize the likelihood of obtaining stable and meaningful parameter estimates despite data limitations.

This approach in computational statistics allows for more flexibility in modelling relationships between variables without imposing strict distributional assumptions that are often violated in data analysis (Rabe-Hesketh and Skrondal, 2006; Rabe-Hesketh *et al.*, 2004). This methodology is consistent with prior research in entrepreneurial finance utilizing Qualitative Dependent Variable Models (Beck *et al.*, 2005, 2008). After attempting different specifications based on the conceptual framework developed in Section 2, only two models converged: (a) the extended model and (b) the base model, both displayed in Table 1. Note that having two specifications aimed to utilize model (a) as a robustness test of model (b), which held. Moreover, marginal effects were interpreted, and all parameters were tested at 10% statistical significance.

4.3 Results

In Table 1, borrowing from friends emerged as the most significant finding from the data; in particular, borrowing from friends during the pandemic was a byproduct of generally borrowing from family (see legend). Moreover, the results showed that if the respondent had used debt lending from family (DLFA15), there was a 117% and a 143% greater likelihood that they would borrow from friends in the 15 months after the start of the pandemic (DLFR15). On the other hand, customarily borrowing from friends and borrowing from friends when other sources of finance were difficult to access (DFROS) showed positive significant associations compared to DLFR15 during the COVID-19 pandemic with increasing likelihoods of 200.17% and 265.73%, respectively. Lastly, during the pandemic, borrowing through ROSCA (DROBIND) had a negligible, non-significant impact on loans from friends (DLFR15).

With respect to using debt from friends on a regular basis to finance the business (DFRB), the authors found that using debt from family members when other sources of finance were difficult to access (DFAOS) yielded an increased likelihood of 339.73%. However, borrowing from family members (DFAB) or from ROSCA on a regular basis (DROB) or when other sources of finance were difficult to access (DROOS), did not have any significant associations with using debt from friends on a regular basis (DFRB). Analogously, the employment of both long-term (LTBLIND) and short-term (STBLIND) bank loans had no statistical impact on using debt from friends on a regular basis (DFRB). According to the categorical levels of these simultaneous equation models, it naturally became much more difficult to borrow from friends during the COVID-19 pandemic than before. The lack of statistical significance of formal financing, along with the absence of governmental support, underlines the predominance of IF, likely due to inaccessibility to formal finance during the period. Consequently, WH1 is rejected.

Study 1 finds that entrepreneurs predominantly used IF, i.e. borrowing from family and friends (supporting Peters *et al.*, 2016; Zahra, 2021), leading to WH1 being rejected. Two key points are relevant to entrepreneurial finance and EE theory in the African context. First, bank loans had no statistically significant relationship vis-à-vis the use of IF (primarily family and

Table 1. Simultaneous logistic regressions: Informal vs formal lending

	DLFA15		DFROS		DFRB		DLRO15	
DLFR15 ^a	0.8873	(0.4205)**	1.6503	(1.0353)	0.6920	(0.6555)	-0.1100	(0.5642)
DLFR15 ^b	0.7737	(0.3177)**	1.4520	(0.6767)**	0.8495	(0.6740)	-	-

	LTBL	STBL	DFAB	DFAOS	DROB	DROOS	LTBLIND	STBLIND	DFABIND	DROBIND	IND
DFRB ^a	-0.0065	-1.7319	5.4399	0.2498	12.2639	-6.7335	-0.3212	0.2054	-0.9001	-1.0298	9.0054
	(4.2651)	(4.9410)	(2.3362)**	(0.5369)	(3.1938)***	(3.5875)*	(0.9269)	(1.0638)	(0.5493)	(0.4756)**	(3.8619)**
DFRB ^b	0.8668	5.0960	4.1408	0.2129	-	-	-0.3654	-1.1366	-0.6374	-	5.7617
	(3.7260)	(5.0953)	(1.5982)***	(0.7446)	-	-	(0.8591)	(1.2395)	(0.2989)**	-	(3.6287)

Note(s) ^aExtended Models, ^bBase Models

DLFR15: During the past 15 months, I have used debt lending from friends more often than before; DFRB: I use debt from friends to finance my business; DLFA15: During the past 15 months, I have used debt lending from family more often than before; DFROS: I use debt from friends when other sources of finance are difficult to access; DLRO15: During the past 15 months, I have used debt lending from ROSCA more often than before; LTBL: Long term bank loan; STBL: Short term bank loan; DFAB: I use debt from family members to finance my business; DFAOS: I use debt from family members when other sources of finance are difficult to access; DROB: I use debt from ROSCA to finance my business; DROOS: I use debt from ROSCA when other sources of finance are difficult to access; LTBLIND: Long term bank loan per industry; STBLIND: Short term bank loan per industry; DFABIND: I use debt from family members to finance my business per industry; DFAOSIND: I use debt from family members when other sources of finance are difficult to access per industry; DROBIND: I use debt from ROSCA to finance my business per industry; DROOSIND: I use debt from ROSCA when other sources of finance are difficult to access per industry; IND: Industry category

Source(s): Authors' own work

friends), which suggests that within Rwanda's orchestrated EE (Harima *et al.*, 2024), the state's coordinating mechanisms and anchor institutions have not effectively connected formal financial channels with entrepreneurs' lived financing practices. Second, in line with the pecking order literature (Radja and Pakereng, 2023) and trust theory (Lyon, 2000; Amoako *et al.*, 2021), once family funds were exhausted, Rwandan entrepreneurs borrowed from friends, and then, sequentially, from ROSCAs (Zambrano *et al.*, 2023). This sequential borrowing pattern reflects a bottom-up, self-orchestrating response to institutional gaps, where community networks substitute for the coordination that orchestrated EEs aim to provide from the top down.

5. Study 2: news media narratives

Study 2 utilizes a multi-method approach that combines (semi-)parametric models, semantic network analysis, and linguistic analysis to identify the themes and narratives in financial communications regarding entrepreneurial financing in the news media before and after the pandemic. The media is crucial in shaping these networks as it promotes information dissemination, boosts connectedness, and affects network dynamics (Grinchenko, 2024; Roundy, 2016; Williams and Vorley, 2015). Entrepreneurs utilize the news media as a critical source of information, to develop social capital, and obtain resources. Therefore, the media influences the EE's efficacy and robustness.

5.1 Working hypotheses development

The literature has established that news media narratives were central to how Rwanda's authoritarian government managed the post-genocide period (Nzitatira *et al.*, 2024). These narratives extend to the EE, where financial communications act as a critical mechanism for resource mobilization. Moreover, the disruption of financial communications and decision-making processes within EEs heightened the need for adaptive financial strategies (Mamaro and Sibindi, 2022). Consequently, the influence of news media narratives on ER is noteworthy and merits further investigation.

Financial communication within EEs reflects not only economic trends but also the adaptive capacity of entrepreneurs. Given that EEs comprise an interdependent set of actors – including financial institutions, policymakers, and entrepreneurs – news media discourse plays a vital role in aligning resource flows with entrepreneurs' needs (Stam and van de Ven, 2021). The pandemic underscored the interconnectedness of different EE actors and necessitated broader communication strategies to facilitate financial alignment and decision-making inclusivity. ER enables firms to navigate resource-scarce environments through behavioral adaptation and strategic constraint-imposition (Fisher *et al.*, 2021; Lange *et al.*, 2024). In financial discourse, this suggests an increased focus on narratives that integrate various sources of capital, including formal and informal finance. This leads to the following Working Hypothesis:

WH2. IF narratives increased in prominence in post-COVID-19 news media.

Access to entrepreneurial finance remains a persistent challenge in emerging economies (van Klyton *et al.*, 2024). During the pandemic, business liquidity gained prominence as entrepreneurs attempted to balance their cash flows amid disrupted operations (Rao *et al.*, 2024). From an ER perspective, entrepreneurs strategically leverage formal and informal financial networks to maintain business continuity (Williams *et al.*, 2025) and exercise knowledge-related resourcefulness (Rawhouser *et al.*, 2025). This reflects a resourcefulness-driven shift in the dissemination of financial news through different channels (Cornelissen, 2010; Zbucnea and Mocanu, 2013). Therefore, the study hypothesizes that:

WH2a. The prevalence of high-dissemination channels over interpretative channels led to more diffused post-COVID-19 news media narratives about informal entrepreneurial financing.

Government policies and interventions were crucial in ensuring the survival of entrepreneurs' businesses, particularly in facilitating resource mobilization and aligning financial incentives with operational needs (Mamaro and Sibindi, 2022). Given the structural constraints within emerging EEs, news media discourse likely amplified the significance of public policies as essential mechanisms for financial resource acquisition and integration (Rao et al., 2024). Accordingly, the following hypothesis is presented:

WH2b. The alignment of macro-level discourses on business growth, financial management, and global integration with formal entrepreneurial financing increased the use of formal linguistic markers in post-COVID-19 news media narratives.

The pandemic introduced tighter financial management criteria, particularly in credit-constrained economies (Daniel, 2022), forcing entrepreneurs to adopt cost-effective, simplified, and adaptable financial management practices (Koloma, 2021). The pandemic also foregrounded an increasing reliance on international business capital to support post-pandemic recovery. Entrepreneurial finance underwent a paradigm shift, with foreign investments and venture capital becoming more prominent in mitigating entrepreneurs' financial distress (Rao et al., 2024). Within the EE framework, media discourse not only shaped access to global capital but also positioned the entrepreneurs as viable recipients of international funding. By framing financial narratives around international capital flows, policymakers and institutions sought to enhance entrepreneurial visibility and access to resources. This process aligns with the ER perspective, as entrepreneurs navigate complex financial landscapes (Fisher et al., 2021), hence:

WH2c. More comprehensive financial decision-making increased the linguistic scope in post-COVID-19 news media narratives.

5.2 Data and methods

5.2.1 Semantic network analysis. 371 pre-COVID-19 period media documents and 426 post-COVID-19 period media documents were collected using the NexisUni database, focusing on publications 16 months before and 16 months after the survey period. The search terms used were: "Rwanda AND (Lockdown OR economy OR government policy OR social distancing OR Health OR pandemic OR government announcement OR SME Finance OR COVID-19 OR Small Business financial support OR "Ministry of Finance and Econ Development" OR "Ministry of Commerce" OR "The National Bank of Rwanda" OR "Rwanda Tax Revenue Authority" OR "Ministry of Finance and Economic Planning" OR "MINECOFIN" OR SME OR Finance)". Subsequently, the different dissemination channels from the data were analyzed to identify which channels showed statistically significant changes pre- and post-COVID-19 (see Table 2).

Semantic network analysis was conducted to identify key themes and changes in narrative structures concerning entrepreneurial finance before and after the COVID-19 pandemic. To achieve this, WORDij software was used (Danowski, 2013). This software identifies word frequency within a dataset (word counts), examines co-occurrence patterns (word pair counts), and generates matrices representing these relationships. Additionally, the matrices capture directional ties between words, preserving the original word order rather than treating them as nondirectional. After pre-processing to remove punctuation and stop words, word pairs (bigrams) occurring three words before and after each word in the text were extracted. Their frequency counts were identified, and relative frequencies are analyzed.

The top 300 among 4,178-word pairs in the post period revealed several prominent themes. The more statistically significantly different word pairs were further analyzed to identify nineteen sub-categories (using principal components analysis). These subcategories were further grouped by inspection to result in six categories ranked in Table 5: (1) business growth;

Table 2. Publications about SME finance in Rwanda before and after Covid-19

Category	Pre COVID count	Pre COVID proportion	Post COVID count	Post COVID proportion	Change rate	Change <i>p</i> -value
Aggregate News Sources	0	0.00%	1	0.24%	100.00%	0.3652
Blogs	13	3.74%	9	2.12%	-30.77%	0.1783
Business Opportunities	11	3.16%	17	4.00%	54.55%	0.5345
Industry Analyst Reports	0	0.00%	4	0.94%	400.00%	0.0696
Industry Trade Press	74	21.26%	79	18.59%	6.76%	0.3529
Magazines and Journals	22	6.32%	23	5.41%	4.55%	0.5908
News Transcripts	5	1.44%	5	1.18%	0.00%	0.7500
Newsletters	12	3.45%	58	13.65%	383.33%	0.0000
Newspapers	51	14.66%	70	16.47%	37.25%	0.4895
Newswires and Press Re-leases	105	30.17%	86	20.24%	-18.10%	0.0014
Undefined (Satellite Today – News on Satellite Industry)	1	0.29%	0	0.00%	-100.00%	0.2688
Video ^a	5	1.44%	0	0.00%	-100.00%	0.0132
Web-based Publications	49	14.08%	73	17.18%	48.98%	0.2401

Note(s): ^aThe “Video” category represents a subset of news sources and includes the full, searchable transcripts of news broadcasts from major television and radio networks

Source(s): Authors’ own work

(2) financial management; (3) global capital; (4) industrial sector; (5) innovation adoption; and (6) public policies.

Next, words and bigrams were analyzed to determine the significance of observed changes in relative frequency from pre-to post-COVID-19 periods. Frequencies were converted to proportions based on the total number of terms identified and Z-tests for proportions were computed. The word pairs that were statistically significantly different were counted in the pre- and post-COVID-19 periods, standardized to Z-scores, and their differences calculated. In Table 4, the difference of the Z-scores of the significant bigrams pre- and post-COVID-19 ($DZSBIGR$) were evaluated with semi-parametric methods, as similarly described in subsection 4.2. The ranking of the six categories displayed in Table 5 resulted from the model specifications in Table 4, where $DZSBIGR_2$ is a robustness test to $DZSBIGR_1$. Table 4 is supported by the latter parameterization.

5.2.2 Connection to study 1: contextual analysis of informal language usage. In Study 2, the same set of Nexis documents evaluated in the semantic network analysis was examined using the Linguistic Inquiry and Word Count (LIWC) software. The goal was two-fold: (1) to detect significant changes in language use related to entrepreneurs in news media coverage, and (2) to perform a contextual analysis of terms emphasizing the use of IF, which emerged from the results of Study 1. Documents from 16 months before and 16 months after the survey period were included.

Four of the 107 LIWC dictionary categories (Boyd *et al.*, 2022) were found to be most closely associated with informality, mirroring the preference for IF uncovered in Study 1: “you”, “friend”, “assent”, and “conversation”. These categories were specifically examined for changes occurring before and after the COVID-19 pandemic. Co-occurrence analysis and word frequency counts were carried out to identify notable changes in language patterns (Wu *et al.*, 2021), which are now considered as linguistic markers. Next, statistical comparisons of LIWC category scores (pre-vs. post-COVID-19) were conducted to identify significant differences in context and usage (Fridman *et al.*, 2021; Luri, 2024). Lastly, paired *t*-tests were performed to compare pre- and post-COVID-19 LIWC scores of each linguistic marker. The results of the LIWC analysis are summarized in Table 3.

Table 3. Linguistic markers found in Table 2's publications

Linguistic markers	Pre-Covid mean	Pre-Covid SD	Post-Covid mean	Post-Covid SD	Mean change rate	<i>p</i> -value
assent	0.0080	0.0090	0.0190	0.0340	137.50%	0.0470
conversation	0.0610	0.0210	0.0880	0.0750	44.26%	0.0290
friend	0.0008	0.0030	0.0030	0.0060	275.00%	0.0480
leisure	0.0410	0.0200	0.0570	0.0350	39.02%	0.0170
polite	0.0600	0.0250	0.0800	0.0530	33.33%	0.0370
reward	0.4880	0.0770	0.5480	0.1330	12.30%	0.0190
visual	0.2980	0.0600	0.3360	0.0850	12.75%	0.0300
you	0.0180	0.0250	0.0840	0.2100	366.67%	0.0420

Source(s): Authors' own work

5.3 Results

The categories listed from the NexisUni database in Table 2 summarize how different types of news media communicated information about entrepreneurial financing in Rwanda before and after the pandemic. Accordingly, newswires and press releases, newsletters, videos, and industrial analyst reports were statistically significant for the change in the mention of the NexisUni search terms (derived from Study 1), with the latter two (videos, and industrial analyst reports) contributing negligible volume. Term frequencies declined in newswires and press releases—platforms characterized by greater speed and wider dissemination—but increased in newsletters, which are typically slower to circulate and narrower in reach (Cornelissen, 2010). This divergence reflects underlying differences in media form: newswires and press releases operate as traditional, top-down channels of corporate communication, whereas newsletters function as comparatively informal, bottom-up sources of financial information (Zbucnea and Mocanu, 2013). Thus, WH2a is not supported.

Table 3 highlights the linguistic variables most closely tied to informal entrepreneurial finance, the entrepreneurs' predominant funding choice in Study 1. These markers exhibited a significant post-COVID-19 increase, with the most pronounced change observed in the use of "you." This pattern aligns with Pennebaker's (2011) characterization of "you" as a socially outward, other-focused pronoun that reduces formality and enhances engagement, serving as a linguistic marker of how individuals manage relationships and emotional tone. In financial communication, "you" personalizes abstract concepts, making them directly relevant to the reader while simultaneously assigning both opportunity and responsibility. Its use fosters a conversational, client-centered tone in newsletters and marketing, in contrast to the impersonal style that typifies press releases and regulatory filings. Consequently, WH2b was found to be unsupported.

Table 5, is equivalent to a "comparative static" of Table 4, shows the ranking of the discourse themes for Study 2. Business growth emerged as the dominant theme with word pairs like *new business*, *organic growth*, *client base*, and *product services*, which signals a shift in news media discourse toward expansion opportunities despite resource constraints. Financial Management followed closely, with terms such as *retail bank*, *digital banking*, *asset management*, and *wealth management* indicating a growing interest in banking services and financial management practices. The increased frequency of digital banking suggests a shift towards digital financial solutions, while revenue growth, interest income and tax profit point to a strong emphasis on financial performance indicators. Thus, media discourse functions as a knowledge diffusion mechanism (Rawhouser et al., 2025) by promoting these themes and attempting to influence how entrepreneurs approach liquidity constraints and financial viability through formalized, and technologically integrated financial practices within the EE.

Furthermore, the regulatory landscape shapes financial decision-making and influences entrepreneurs' survival strategies. News media narratives during the pandemic increasingly

Table 4. Z-scores differences pre and post Covid-19

	DZSBIGR ₁	DZSBIGR ₂
intercept	-1.7978 (0.0128)***	29.0974 (0.1340)***
prefrq	0.1530 (0.0011)***	-0.2976 (0.0017)***
postfrq	-0.0515 (0.0003)***	-0.0523 (0.0004)***
finman	0.0259 (0.0128)**	-37.2048 (0.1952)***
glocap	0.0720 (0.0096)***	-
indsec	0.2897 (0.0111)***	-4.1407 (0.4433)***
pubpol	0.0212 (0.0112)*	-4.6490 (0.4833)***
busgrow	-0.0606 (0.0070)***	3.8835 (0.3100)***
innadpn	0.0470 (0.0078)***	-
zsfman	-	-8.0415 (0.0483)***
zsglocap	-	-3.0261 (0.1660)***
zsindsec	-	-1.5023 (0.1752)***
zspubpol	-	-1.8499 (0.1779)***
zbusgrow	-	1.5039 (0.1154)***
zsinnadpn	-	-2.5170 (0.1231)***
prefrqI	0.0128 (0.0012)***	-
prefrqII	0.0266 (0.0031)***	-
prefrqIII	0.0675 (0.0029)***	-
prefrqIV	0.0191 (0.0026)***	-
prefrqV	0.0161 (0.0018)***	-
prefrqVI	0.0399 (0.0021)***	-
postfrqI	-0.0035 (0.0003)***	-
postfrqII	-0.0045 (0.0006)***	-
postfrqIII	-0.0204 (0.0008)***	-
postfrqIV	-0.0034 (0.0006)***	-
postfrqV	0.0023 (0.0004)***	-
postfrqVI	-0.0051 (0.0005)***	-

(continued)

Table 4. Continued

	DZSBIGR ₁	DZSBIGR ₂
<i>L</i>	1 (constrained)	–
var(e.DZSBIGR ₁)	0.0439 (0.0003)**	–
var(e.DZSBIGR ₂)	–	13.8261 (0.0854)

Note(s): Significance Levels: **p* < 0.1, ***p* < 0.05, ****p* < 0.01
DZSBIGR₁: differences of the z-scores of the significant bigrams pre and post Covid-19
DZSBIGR₂: differences between pre and post Covid-19 mention frequency
zs: standardised value
prefrq: Pre-Covid 19 frequency
postfrq: Post-Covid 19 frequency
L: Latent Variable
I: Financial Management (finman)
II: Global Capital (glocap)
III: Industrial Sectors (indsec)
IV: Public Policies (pubpol)
V: Business Growth (busgrow)
VI: Innovation Adoption (innadpn)
Source(s): Authors’ own work

Table 5. Z-scores differences Pre and post Covid-19: ranking of discourse themes

Rank	Discourse theme	Pre-COVID-19	Post-COVID-19	SE pre-COVID-19	SE post-COVID-19	Diff post-pre COVID-19
1st	Business Growth	0.0161	0.0023	0.0018	0.0004	–0.0139
2nd	Financial Management	0.0128	–0.0035	0.0012	0.0003	–0.0163
3rd	Public Policies	0.0191	–0.0034	0.0026	0.0006	–0.0226
4th	Global Capital	0.0266	–0.0045	0.0031	0.0006	–0.0312
5th	Innovation Adoption	0.0399	–0.0051	0.0021	0.0005	–0.0450
6th	Industrial Sector	0.0675	–0.0204	0.0029	0.0008	–0.0879

Source(s): Authors’ own work

emphasized regulatory frameworks, compliance mandates, and government interventions, reflecting the heightened importance of structured financial governance in uncertain environments. The prominence of terms such as *regulation*, *scheme preferences*, *European Commission*, and *parliament and council* signals a shift towards a more institutionally embedded financial discourse.

The role of global capital in EEs is a contested issue, though, particularly in emerging economies where financial infrastructure remains unevenly developed. News media discourse surrounding global capital positioned international investment as a vehicle for entrepreneurial growth, aligning with broader narratives of financial modernization and economic recovery. Word pairs such as *South Africa*, *Hong Kong*, and *Saudi Arabia* suggest a focus on international financial linkages, reinforcing the notion that foreign capital inflows were crucial in mitigating pandemic-induced liquidity constraints.

In contrast, the *Adoption of Innovation and Industrial Sectors* categories experienced minimal change in news media discourse, suggesting that technological advancement was not a primary post-pandemic concern for Rwanda’s EE. While terms such as *data center*, *information sharing*, *digital bank*, and *mobile customers* highlight ongoing digitization efforts, the relative stagnation of innovation discourse suggests a focus on immediate survival

strategies over long-term technological disruption. As reflected in [Tables 4 and 5](#), [WH2c](#) is not supported.

As discussed, business growth, financial management, and public policy discourse dominated the post-pandemic period, while global capital, innovation adoption, and industrial sectors ranked lower and exhibited less change. This distribution indicates that Rwanda's post-pandemic media narratives prioritized recovery and regulatory adaptation over technological transformation. The predominance of business growth aspirations among entrepreneurs coincides with [Koloma \(2021\)](#), for example, who found that informal MSMEs in Senegal remained optimistic about future growth despite widespread sales declines and credit constraints during the pandemic. This tendency toward cautious optimism contrasts with the financial discipline emphasized in [Daniel \(2022\)](#), whose study of Rwandan firms showed that survival under credit constraints depended on stricter financial management practices — including cash flow control, capital investment reviews, and liquidity practices. These findings suggest that while informal firms often retain growth-oriented outlooks, their survival in crisis contexts hinges on the robustness of their financial management systems.

[LaFuente et al. \(2023\)](#) argue that, while global capital can serve as a mechanism for financing entrepreneurship, its efficacy depends on the absorptive capacity of local EE, institutional quality, and the ability of entrepreneurs to integrate external financial resources effectively. The framing of international capital as an unambiguous driver of entrepreneurial business growth neglects the vulnerabilities it introduces. Financial dependence on global capital markets can expose the entrepreneurs to external shocks, reinforcing volatility rather than stability ([Minniti et al., 2024](#)).

The results in [Table 1](#) evidenced that the entrepreneurs increased their reliance on IF during the pandemic; therefore, [WH1](#) was rejected. Building on the patterns identified in [Tables 2–5](#), which highlight shifts in Rwanda's financial communication landscape after the pandemic, the findings related to [WH2](#) suggest that the ecosystem's communication infrastructure is evolving but not yet inclusive. Media outlets, financial institutions, and state agencies continue to privilege formal corporate finance narratives—particularly around business growth and financial management—while localized, and trust-based practices remain marginal in coverage. Consequently, [WH2](#) is rejected.

6. Discussion and conclusion

This two-study paper has several implications. First, different sources of entrepreneurial finance played a decisive role in revealing that entrepreneurial resourcefulness served as a mechanism through which productive entrepreneurship emerged in Rwanda's orchestrated entrepreneurial ecosystem. The results indicated that informal finance – loans from family and friends – was the dominant form of external financing during the pandemic. Hence – by integrating entrepreneurial ecosystem, productive entrepreneurship and entrepreneurial resourcefulness theory – bottom-up, resourceful entrepreneurs preferred informal financing to enable productive entrepreneurship. Conversely, the news media narratives attempted to reposition the orchestration of the entrepreneurial ecosystem by echoing formalized, top-down government discourse that mirrored globalization rhetoric. The narratives served to elevate behaviors associated with formal finance while marginalizing grassroots practices, therefore yielding unproductive entrepreneurship [4]. Moreover, the entrepreneurial resourcefulness of the entrepreneurs was largely invisible in media coverage. Accordingly, some theoretical, practice, and policy-making implications emerge.

6.1 Theoretical implications

This study addresses gaps in the predominantly Western-centric literature on the impact of the pandemic on entrepreneurs ([Sharma et al., 2024](#)), with some exceptions (e.g. [Adeola et al., 2022](#); [Eniola et al., 2022](#)). It reveals a tension within orchestrated EEs ([Harima et al., 2024](#);

Isenberg, 2010; O'Shea *et al.*, 2021); namely, that entrepreneurs sequentially mobilized their most trusted social capital (family and friends) to access informal finance rather than funding from the more formal, and rent-seeking sources of finance that enable unproductive entrepreneurship (Baumol, 1996).

Entrepreneurial resourcefulness (Williams *et al.*, 2025) means that pre-existing social networks, including ROSCA (Zambrano *et al.*, 2023), provide immediate liquidity when formal finance is less accessible. This evidence reinforces prior findings (Amoako *et al.*, 2021; Lyon, 2000; Guéneau *et al.*, 2022) that networked trust and collaboration (Guéneau *et al.*, 2022; Lyon, 2000) allow resources to flow more efficiently within EEs. Informal finance spotlights systemic challenges within the formal finance sector (*viz* limited access to credit and inadequate institutional enterprise support), especially during crises. Indeed, informal finance is an essential and permanent resource endowment and actor in African entrepreneurial ecosystems (Godfrey, 2011; Webb *et al.*, 2020) as opposed to a view that suggests it is merely a temporary substitute for formal institutions.

During normal periods, respondents who relied on family were more likely to borrow from friends during the pandemic, mirroring key mechanisms of entrepreneurial resourcefulness, such as bricolage, hustle, and improvisation (Baker and Nelson, 2005; Fisher *et al.*, 2020; Fisher, 2024; Scheidgen *et al.*, 2025). As well as showing the interconnection of borrowing practices and the broader EE, community resourcefulness (Hertel *et al.*, 2021) is evident as a way of overcoming institutional voids, low levels of trust, and perceived gaps in the formal financial system. The flexibility of resourceful entrepreneurs illustrates that EEs, particularly in low-income economies, are rooted in informal finance. During the pandemic, financial responsibilities were redistributed across the broader community ties rather than tapping into formal finance (either through the banks or government schemes). The findings support prior contextualized work in Rwanda that established that entrepreneurs rely on informal finance and social ties due to institutional voids and low levels of trust (van Klyton *et al.*, 2024). It thus suggests what may be described as a Hertelian–Baumolian intertwining, whereby entrepreneurial resourcefulness—specifically community resourcefulness (Hertel *et al.*, 2021)—as a resource endowment interacts with the EE's institutional arrangements, or lack thereof (Stam and van de Ven, 2021), to enable productive entrepreneurship (Baumol, 1996). These findings align with prior African entrepreneurship studies on networks and trust (Lyon, 2000) and weak institutions (Amoako *et al.*, 2021), despite the pandemic challenging established networks (Mamaro and Sibindi, 2022).

In contrast, Study 2 revealed a series of paradoxical themes reflecting an elite neoliberal ideology embedded in the news media narratives, which contradicts the grassroots practices of (informal) entrepreneurs. The media played a pivotal role in shaping entrepreneurial financial behaviors, given that entrepreneurs in resource-constrained environments often rely on knowledge-based resourcefulness to access and interpret financial opportunities (Rawhouser *et al.*, 2025). These findings suggest that news media within Rwanda's orchestrated EE are advocating for extractive (rent-seeking) unproductive entrepreneurship that excludes informal investors, which would enable local informal entrepreneurs to achieve PE.

This framing aligns with the EE perspective, which underscores that entrepreneurs operate within a broader system of interdependent actors (Stam, 2015), each performing distinct functions that contribute to the EE's overall vitality and, thus, to PE (Baumol, 1996; Stam and van de Ven, 2021). Whereas Williams and Vorley (2015) highlight how institutional asymmetry emerges when cultural and regulatory reforms evolve at different speeds, this study extends the argument to a communicative domain. In Rwanda, institutional asymmetry is reproduced through news media discourse that amplifies formalist narratives of entrepreneurship, shaping how entrepreneurs perceive and negotiate informal financing. Accordingly, the media become part of the ecosystem's orchestration architecture, diffusing legitimacy scripts and aligning entrepreneurial expectations with broader institutional agendas.

The financial management frame emphasizes corporate financial management and digital banking and aligns with the adaptive mechanisms of EEs. Moreover, the media's role in

shaping regulatory narratives contributes to knowledge-related resourcefulness, as entrepreneurs must continuously adapt their financial strategies to navigate evolving economic landscapes (Minniti *et al.*, 2024). Despite its incongruencies with *on the ground* SME financing, media discourse not only shapes perceptions of regulatory compliance but also serves as a tool for knowledge diffusion, attempting to equip entrepreneurs with the necessary insights to engage with formal finance and align with evolving institutional expectations.

Analogously, the framing of global capital as an aspirational funding source also contributed to shaping what Rawhouser *et al.* (2025) term financial knowledge corridors—pathways through which entrepreneurs acquire, interpret, and redeploy financial knowledge to navigate investment complexity. In orchestrated EEs, these knowledge corridors can support productive entrepreneurship but may also entrench dependency by steering entrepreneurs toward externally legitimized yet unsuitable financial pathways, unless institutional safeguards are present.

The discourse themes reflect how resourceful entrepreneurs overcome local knowledge constraints by expanding their networks and leveraging external expertise. Ultimately, media discourse serves as a conduit for knowledge-related resourcefulness at the EE level. By reinforcing certain recovery pathways—such as formal finance, global capital, and regulatory compliance—media narratives effectively guide the kinds of proprietary resource endowments entrepreneurs prioritize and the institutional mechanisms they engage with to achieve both self-interest and collective EE objectives (Stam and van de Ven, 2021). These results underline the interconnectedness of financial performance, regulatory frameworks, technological innovation, and global capital considerations. Furthermore, the prevalence of these themes reveals a comprehensive set of challenges that entrepreneurs face as they navigate complex operational landscapes, adapt to regulatory demands, and attempt to leverage technology to drive growth and maintain competitiveness in a globalizing economy.

The limited change in innovation-related discourse further underscores that entrepreneurs in weak EEs pursue efficiency-driven rather than innovation-driven adaptation (LaFuente *et al.*, 2023). This orientation reflects Hertel *et al.*'s (2021) notion of community resourcefulness—leveraging networks and incremental improvements to sustain operations—rather than speculative technological change. These patterns highlight a broader shift toward financial pragmatism and adaptive learning as mechanisms of resilience within orchestrated ecosystems.

Media dissemination channels serve as knowledge corridors (Rawhouser *et al.*, 2025). Here, the study finds that knowledge-rich corridors (high-dissemination channels) were not as useful for entrepreneurs as other channels not considered knowledge-rich corridors (low-dissemination channels). If ER is a mechanism that the entrepreneurs used to survive during the pandemic, then PE in a Baumolian sense could be generated in knowledge-corridors that are not considered rich. This dynamic directly relates to Harima *et al.* (2024)'s conception of orchestrated EEs, where anchor organizations perform leadership functions that align distributed actors around shared narratives and resource flows. In the Rwandan context, media institutions—though not formal orchestrators—operate as narrative anchors, reinforcing top-down coordination by diffusing the discursive themes and financial norms established by state and global actors. Consequently, media dissemination becomes a complementary orchestration mechanism for shaping how entrepreneurs perceive viable pathways to productive entrepreneurship within the ecosystem.

6.2 Practice and policy implications

The findings reveal a tension between bottom-up entrepreneurial resourcefulness and top-down news media narratives in orchestrated EEs (Harima *et al.*, 2024; Isenberg, 2010; O'Shea *et al.*, 2021). As a result, several practical implications emerge for strengthening Rwanda's orchestrated EE.

First, policymakers should develop hybrid financing policies that integrate formal financial institutions with trusted informal networks, and support community resourcefulness that is a way of overcoming institutional voids, low levels of trust, and perceived gaps in the formal financial system (Hertel *et al.*, 2021). Second, targeted capacity-building initiatives – such as training and mentorship programs – are critical for fostering entrepreneurial resourcefulness because they equip *local* entrepreneurs with the skills needed to creatively mobilize and reconfigure resources in resource-constrained environments and build a firewall against unproductive entrepreneurship (rent-seeking). Third, financial institutions and informal finance providers should collaborate to design integrated, flexible financing solutions that address the unique challenges faced by entrepreneurs, thereby mitigating or even reversing the cannibalization of informal finance (Meagher, 2018). This initiative is key given that informal finance is an essential and permanent resource endowment for African entrepreneurial ecosystems (Godfrey, 2011; Webb *et al.*, 2020).

Fourth, engaging media outlets to promote balanced and constructive narratives can support informed policymaking and reinforce productive entrepreneurship. Media, as an influential actor within the EE, plays a coordinating role by shaping the discourse around strategic choices (Stam, 2015; Stam and van de Ven, 2021), a role that should be leveraged to counter the elite neoliberal ideology that enables extractive (rent-seeking) unproductive entrepreneurship (Baumol, 1996). Fifth, establishing multi-stakeholder partnerships among government agencies, financial institutions, entrepreneurship support organizations, and news media is essential for creating an EE that can serve as a model for similar low-income and post-conflict contexts.

The implications from the results of Study 2 extend prior work on EE as knowledge systems (Spigel, 2017; Roundy, 2016) and productive entrepreneurship (Baumol, 1996; Stam, 2015). To strengthen PE, ecosystem actors could use these dissemination channels more strategically. Public agencies might partner with independent media to co-create content that demystifies hybrid finance models and showcases community-based credit innovations. Non-governmental organization (NGO) programs, for example, could leverage the rise of digital newsletters and web publications to diffuse locally grounded success stories rather than importing templates from developed economies. Financial institutions could draw on conversational, trust-building communication styles to engage first-time or informal entrepreneurs and expand perceptions of credible finance.

These implications do not assert a direct causal influence of media narratives on entrepreneurial behavior. Rather, they highlight the communicative infrastructures through which legitimacy, knowledge, and aspiration circulate. Reconfiguring these dissemination channels—through more dialogic, participatory, and context-sensitive communication—can enable the EE to foster more productive and contextually adaptive forms of entrepreneurship that bridge formal and informal finance.

6.3 Limitations and future research directions

Despite the valuable insight from this multi-study analysis, some limitations emerge. First, as with any single country study, the generalizability of the findings to other regions or even different African contexts can be limited. Moreover, the reliance on self-reporting in a survey can introduce response bias, particularly for the nuanced context of informal financing and entrepreneurial resourcefulness.

The analysis was confined to documents available in the Nexis database, which may have excluded alternative news sources, such as social media, that increasingly serve as knowledge diffusion mechanisms and influence public discourse. Nevertheless, using news media analysis has strengthened this study by addressing the persistent lack of reliable, and publicly available data on entrepreneurs in Africa. In contexts where firm-level or longitudinal data remain scarce, news media content offers a valuable and underutilized proxy for understanding ecosystem-level narratives and shifts in financial discourse. Therefore, this approach represents both a methodological innovation and a contextual necessity, leveraging the

historically significant influence of news media in Rwanda to reveal aspects of entrepreneurial finance that would otherwise remain undocumented. Lastly, the linguistic tools employed—such as LIWC and semantic network analysis—capture broad trends but may not fully reflect the subtleties of evolving narrative practices.

Future research could tease out new insights in the African context by first adopting a broader geographical scope and expanding the sampling frame to include entrepreneurs from across African nations. This approach would provide a more comprehensive understanding of EEs in low-income and post-conflict contexts. Second, future studies could integrate a longitudinal approach or examine additional dimensions, such as human capital, social networks, and technological capabilities, to better understand how these resource endowments interact with financial strategies to influence productive entrepreneurship. Lastly, alternative data sources and more sophisticated linguistic techniques could be employed, such as natural language processing, to better capture the evolving narratives utilized in orchestrating *de novo* EEs.

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Notes

1. Following established methodological usage, the working hypotheses articulated in this study are not intended as statistically falsifiable propositions in the narrow confirmatory sense, but as provisional, theory-informed devices that structure inquiry, guide interpretation, and integrate empirical components across studies. Working hypotheses function to orient analysis and sensemaking in complex research designs rather than to conclude inquiry through statistical hypothesis testing alone (Casula *et al.*, 2020). This epistemic role is consistent with philosophical accounts that conceptualize working hypotheses as heuristic and integrative tools that advance investigation without presuming definitive empirical closure (Taylor, 2022).
2. “With replacement sampling”: each time a respondent is selected, it is returned to the pool of over 7,300 respondents before the next draw. Consequently, the same respondent could be chosen more than once (but interviewed only once). This approach ensures that the probability of selecting any respondent remains constant across draws. With concerns of sample representativeness due to population size of Kigali, Rwanda, sampling was done with replacement for two main benefits: to avoid higher field work costs and increase the ability to sample.
3. This study received ethical approval from the Institutional Review Board (IRB) at RC under application number RC-IRB-2020-2911, and informed consent was obtained where applicable.
4. Methodologically speaking, the semantic network analysis for Tables 4 and 5 aligns with the study’s “top bottom” EE, PE, and ER theory. In contrast, the LWIC analysis of Table 3 corresponds with the “bottom-top” flank of it.

References

- Acs, Z.J., Boardman, M.C. and McNeely, C.L. (2013), “The social value of productive entrepreneurship”, *Small Business Economics*, Vol. 40 No. 3, pp. 785-796, doi: [10.1007/s11187-011-9396-6](https://doi.org/10.1007/s11187-011-9396-6).
- Adams, D.W. and Fitchett, D.A. (1992), *Informal Finance in Low-Income Countries*, Westview Press, Boulder, CO.
- Adeola, O., Opute, A.P., Chukwuka, B., Adisa, I. and Orekoya, I. (2022), “Entrepreneurship and COVID-19: a socio-psychological perspective”, in Eniola, A.A., Iwu, C.G. and Opute, A.P. (Eds), *The Future of Entrepreneurship in Africa*, Routledge, New York, pp. 95-115.
- Amoako, I.O., Akwei, C. and Damoah, I. (2021), “‘We know their house, family, and workplace’: trust in entrepreneurs’ trade credit relationships in weak institutions”, *Journal of Small Business Management*, Vol. 59 No. 6, pp. 1097-1126, doi: [10.1111/jsbm.12488](https://doi.org/10.1111/jsbm.12488).

- Baha, R., Levy, A. and Hasnaoui, A. (2023), "Capital structure and default risk of small and medium enterprises: evidence from Algeria", *The Journal of Risk Finance*, Vol. 24 No. 4, pp. 523-536, doi: [10.1108/jrf-04-2023-0105](https://doi.org/10.1108/jrf-04-2023-0105).
- Baker, T. and Nelson, R.E. (2005), "Creating something from nothing: resource construction through entrepreneurial bricolage", *Administrative Science Quarterly*, Vol. 50 No. 3, pp. 329-366, doi: [10.2189/asqu.2005.50.3.329](https://doi.org/10.2189/asqu.2005.50.3.329).
- Baumol, W.J. (1996), "Entrepreneurship: productive, unproductive, and destructive", *Journal of Business Venturing*, Vol. 11 No. 1, pp. 3-22, doi: [10.1016/0883-9026\(94\)00014-x](https://doi.org/10.1016/0883-9026(94)00014-x).
- Beck, T., Demirgüç-Kunt, A. and Maksimovic, V. (2005), "Financial and legal constraints to growth: does firm size matter?", *The Journal of Finance*, Vol. 60 No. 1, pp. 137-177, doi: [10.1111/j.1540-6261.2005.00727.x](https://doi.org/10.1111/j.1540-6261.2005.00727.x).
- Beck, T., Demirgüç-Kunt, A. and Maksimovic, V. (2008), "Financing patterns around the world: are small firms different?", *Journal of Financial Economics*, Vol. 89 No. 3, pp. 467-487, doi: [10.1016/j.jfineco.2007.10.005](https://doi.org/10.1016/j.jfineco.2007.10.005).
- Biru, A., Gilbert, D. and Arenius, P. (2021), "Unhelpful help: the state of support programmes and the dynamics of entrepreneurship ecosystems in Ethiopia", in O'Connor, A., Mason, C., Miles, M.P. and Audretsch, D. (Eds), *The Dynamics of Entrepreneurial Ecosystems*, Routledge, London, pp. 130-152.
- Bollen, K.A., Kolenikov, S. and Bauldry, S. (2014), "Model-implied instrumental variable—Generalized method of moments (MIIV-GMM) estimators for latent variable models", *Psychometrika*, Vol. 79 No. 1, pp. 20-50, doi: [10.1007/s11336-013-9335-3](https://doi.org/10.1007/s11336-013-9335-3).
- Boyd, R.L., Ashokkumar, A., Seraj, S. and Pennebaker, J.W. (2022), *The Development and Psychometric Properties of LIWC-22*, University of Texas at Austin, Austin, TX.
- Brixiová, Z., Kangoye, T. and Yogo, T.U. (2020), "Access to finance among small and medium-sized enterprises and job creation in Africa", *Structural Change and Economic Dynamics*, Vol. 55, pp. 177-189, doi: [10.1016/j.strueco.2020.08.008](https://doi.org/10.1016/j.strueco.2020.08.008).
- Butt, A., Muhammad, F.S., Rab, N.L., Kashif, S. and Nigar, N. (2025), "Wellness under pandemic: a study of family support and religious commitment as antidotes to psychological distress under social disconnectedness policy in Pakistan", *Current Psychology*, Vol. 44 No. 4, pp. 2247-2262, doi: [10.1007/s12144-025-07278-0](https://doi.org/10.1007/s12144-025-07278-0).
- Casula, M., Rangarajan, N. and Shields, P. (2020), "The potential of working hypotheses for deductive exploratory research", *Quality and Quantity*, Vol. 55 No. 5, pp. 1703-1725, doi: [10.1007/s11135-020-01072-9](https://doi.org/10.1007/s11135-020-01072-9).
- Cornelissen, J.P. (2010), "Making sense of a crucial interface: corporate communication and the news media", in Chouliraki, L. and Morsing, M. (Eds), *Media, Organizations and Identity*, Palgrave Macmillan, London, pp. 129-145.
- Cowling, M., Liu, W. and Ledger, A. (2012), "Small business financing in the UK before and during the current financial crisis", *International Small Business Journal*, Vol. 30 No. 7, pp. 778-800, doi: [10.1177/0266242611435516](https://doi.org/10.1177/0266242611435516).
- Daniel, T. (2022), "Analysis of finance and accounting measures to mitigate the impact of COVID-19 pandemic among businesses in Rwanda during and in a post COVID environment", *Open Journal of Accounting*, Vol. 11 No. 03, pp. 199-212, doi: [10.4236/ojacc.2022.113011](https://doi.org/10.4236/ojacc.2022.113011).
- Danowski, J.A. (2013), *WordJ Version 3.0: Semantic Network Analysis Software (3.0)*, University of Illinois at Chicago, Chicago.
- Darbi, W.P.K., Hall, C.M. and Knott, P. (2018), "The informal sector: a review and agenda for management research", *International Journal of Management Reviews*, Vol. 20 No. 2, pp. 301-324, doi: [10.1111/ijmr.12131](https://doi.org/10.1111/ijmr.12131).
- Donaldson, C., Villagrasa, J. and Theodoraki, C. (2025), "Inside-out and outside-in: how entrepreneurial ecosystems can build legitimacy through signaling", *Journal of Small Business Management*, Vol. 63 No. 4, pp. 1552-1593, doi: [10.1080/00472778.2024.2394499](https://doi.org/10.1080/00472778.2024.2394499).
- Egere, O.M., Maas, G. and Jones, J. (2024), "A critical analysis of the Nigerian entrepreneurial ecosystem on transformational entrepreneurship", *Journal of Small Business Management*, Vol. 62 No. 3, pp. 1187-1218, doi: [10.1080/00472778.2022.2123109](https://doi.org/10.1080/00472778.2022.2123109).

- Eniola, A.A., Iwu, C.G. and Opute, A.P. (2022), *The Future of Entrepreneurship in Africa: Challenges and Opportunities Post-pandemic*, Routledge, New York, NY.
- Eze, E. and Alugbuo, J.C. (2021), "Financial inclusion and poverty reduction in Nigeria: a survey-based analysis", *GSC Advanced Research and Reviews*, Vol. 7 No. 3, pp. 75-84.
- Fisher, G. (2012), "Effectuation, causation, and bricolage: a behavioral comparison of emerging theories in entrepreneurship research", *Entrepreneurship Theory and Practice*, Vol. 36 No. 5, pp. 1019-1051, doi: [10.1111/j.1540-6520.2012.00537.x](https://doi.org/10.1111/j.1540-6520.2012.00537.x).
- Fisher, G. (2024), "Resourcefulness enactment: the sensemaking process underpinning resourceful actions", *Entrepreneurship Theory and Practice*, Vol. 48 No. 4, pp. 911-940, doi: [10.1177/10422587231205321](https://doi.org/10.1177/10422587231205321).
- Fisher, G., Stevenson, R., Neubert, E., Burnell, D. and Kuratko, D.F. (2020), "Entrepreneurial hustle: navigating uncertainty and enrolling venture stakeholders through urgent and unorthodox action", *Journal of Management Studies*, Vol. 57 No. 5, pp. 1002-1036, doi: [10.1111/joms.12584](https://doi.org/10.1111/joms.12584).
- Fisher, G., Neubert, E. and Burnell, D. (2021), "Resourcefulness narratives: transforming actions into stories to mobilize support", *Journal of Business Venturing*, Vol. 36 No. 4, 106122, doi: [10.1016/j.jbusvent.2021.106122](https://doi.org/10.1016/j.jbusvent.2021.106122).
- Fridman, I., Fagerlin, A., Scherr, K.A., Scherer, L.D., Huffstetler, H. and Ubel, P.A. (2021), "Gain-loss framing and patients' decisions: a linguistic examination of information framing in physician-patient conversations", *Journal of Behavioral Medicine*, Vol. 44 No. 1, pp. 38-52, doi: [10.1007/s10865-020-00171-0](https://doi.org/10.1007/s10865-020-00171-0).
- Gelman, A., Simpson, D. and Betancourt, M. (2017), "The prior can often only be understood in the context of the likelihood", *Entropy*, Vol. 19 No. 10, p. 555, doi: [10.3390/e19100555](https://doi.org/10.3390/e19100555).
- Godfrey, P.C. (2011), "Toward a theory of the informal economy", *Academy of Management Annals*, Vol. 5 No. 1, pp. 231-277, doi: [10.5465/19416520.2011.585818](https://doi.org/10.5465/19416520.2011.585818).
- Grinchenko, V. (2024), "Entrepreneurial ecosystem: comparative analysis of Petrozavodsk and Pskov", *Journal of Economic Sociology*, Vol. 25 No. 5, pp. 124-145, doi: [10.17323/1726-3247-2024-5-124-145](https://doi.org/10.17323/1726-3247-2024-5-124-145).
- Guéneau, G., Chabaud, D. and Chalus Sauvannet, M.-C. (2022), "Opening entrepreneurial ecosystem's black box: the power of networks in African low-income countries", *International Entrepreneurship and Management Journal*, Vol. 18 No. 2, pp. 753-772, doi: [10.1007/s11365-021-00775-1](https://doi.org/10.1007/s11365-021-00775-1).
- Harima, A., Harima, J. and Freiling, J. (2024), "Ecosystem orchestration: unpacking the leadership capabilities of anchor organizations in nascent entrepreneurial ecosystems", *Entrepreneurship Theory and Practice*, Vol. 48 No. 6, pp. 1404-1450, doi: [10.1177/10422587241241824](https://doi.org/10.1177/10422587241241824).
- Hertel, C., Binder, J. and Fauchart, E. (2021), "Getting more from many — a framework of community resourcefulness in new venture creation", *Journal of Business Venturing*, Vol. 36 No. 3, 106094, doi: [10.1016/j.jbusvent.2021.106094](https://doi.org/10.1016/j.jbusvent.2021.106094).
- Isenberg, D.J. (2010), "How to start an entrepreneurial revolution", *Harvard Business Review*, Vol. 88 No. 6, pp. 40-50.
- Kansheba, J.M.P. (2020), "Small business and entrepreneurship in Africa: the nexus of entrepreneurial ecosystems and productive entrepreneurship", *Small Enterprise Research*, Vol. 27 No. 2, pp. 110-124, doi: [10.1080/13215906.2020.1761869](https://doi.org/10.1080/13215906.2020.1761869).
- Koloma, Y. (2021), "Financial inclusion and entrepreneurship willingness of youth: evidence from Mali", *African Development Review*, Vol. 33 No. 2, pp. 263-275, doi: [10.1111/1467-8268.12539](https://doi.org/10.1111/1467-8268.12539).
- Lafuente, E., Szerb, L. and Ács, Z.J. (2023), "The entrepreneurship paradox: the role of the entrepreneurial ecosystem on economic performance in Africa", in Ács, Z.J., Lafuente, E. and Szerb, L. (Eds), *The Entrepreneurial Ecosystem: a Global Perspective*, Springer Nature Switzerland, Cham, pp. 103-146.
- Lange, F., Hesse, L., Kanbach, D.K. and Kraus, S. (2024), "Unfolding entrepreneurial resourcefulness: a systematic literature review", *New England Journal of Entrepreneurship*, Vol. 27 No. 2, pp. 115-135, doi: [10.1108/neje-09-2023-0078](https://doi.org/10.1108/neje-09-2023-0078).

- Leendertse, J., Schrijvers, M. and Stam, E. (2022), "Measure twice, cut once: entrepreneurial ecosystem metrics", *Research Policy*, Vol. 51 No. 9, 104336, doi: [10.1016/j.respol.2021.104336](https://doi.org/10.1016/j.respol.2021.104336).
- Lu, Z., Wu, J., Li, H. and Nguyen, D.K. (2022), "Local bank, digital financial inclusion and SME financing constraints: empirical evidence from China", *Emerging Markets Finance and Trade*, Vol. 58 No. 6, pp. 1712-1725, doi: [10.1080/1540496X.2021.1923477](https://doi.org/10.1080/1540496X.2021.1923477).
- Luri, I. (2024), "Metaphors in automated text analysis", in Belk, R.W. and Otnes, C. (Eds), *Handbook of Qualitative Research Methods in Marketing*, 2nd ed., Edward Elgar Publishing, Cheltenham, pp. 320-330.
- Lyon, F. (2000), "Trust, networks and norms: the creation of social capital in agricultural economies in Ghana", *World Development*, Vol. 28 No. 4, pp. 663-681, doi: [10.1016/s0305-750x\(99\)00146-1](https://doi.org/10.1016/s0305-750x(99)00146-1).
- Madzikanda, B., Li, C. and Dabuo, F.T. (2022), "Barriers to development of entrepreneurial ecosystems and economic performance in Southern Africa", *African Journal of Science, Technology, Innovation and Development*, Vol. 14 No. 4, pp. 936-946, doi: [10.1080/20421338.2021.1918316](https://doi.org/10.1080/20421338.2021.1918316).
- Mamaro, L.P. and Sibindi, A.B. (2022), "Entrepreneurial financing in Africa during the COVID-19 pandemic", *Journal of Risk and Financial Management*, Vol. 15 No. 11, p. 511, doi: [10.3390/jrfm15110511](https://doi.org/10.3390/jrfm15110511).
- McLachlan, G.J. and Krishnan, T. (2008), *The EM Algorithm and Extensions*, John Wiley & Sons, London.
- Meagher, K. (2018), "Cannibalizing the informal economy: frugal innovation and economic inclusion in Africa", *The European Journal of Development Research*, Vol. 30 No. 1, pp. 17-33, doi: [10.1057/s41287-017-0113-4](https://doi.org/10.1057/s41287-017-0113-4).
- Michaelis, T.L., Scheaf, D.J., Carr, J.C. and Pollack, J.M. (2020), "An agentic perspective of resourcefulness: self-reliant and joint resourcefulness behaviors within the entrepreneurship process", *Journal of Business Venturing*, Vol. 37 No. 1, 106083, doi: [10.1016/j.jbusvent.2020.106083](https://doi.org/10.1016/j.jbusvent.2020.106083).
- Minniti, M., Naudé, W. and Stam, E. (2024), "Is productive entrepreneurship getting scarcer? A reflection on the contemporary relevance of Baumol's typology of entrepreneurship", in Naudé, W. and Power, B. (Eds), *Handbook of Research on Entrepreneurship and Conflict*, Edward Elgar Publishing, Cheltenham, pp. 18-44.
- Molla, A. and Biru, A. (2023), "The evolution of the fintech entrepreneurial ecosystem in Africa: an exploratory study and model for future development", *Technological Forecasting and Social Change*, Vol. 186 Part A, 122123, doi: [10.1016/j.techfore.2022.122123](https://doi.org/10.1016/j.techfore.2022.122123).
- Morris, M.H. and Tucker, R. (2023), "The entrepreneurial mindset and poverty", *Journal of Small Business Management*, Vol. 61 No. 1, pp. 102-131, doi: [10.1080/00472778.2021.1890096](https://doi.org/10.1080/00472778.2021.1890096).
- Mpofu, O. and Sibindi, A.B. (2022), "Informal finance: a boon or bane for African SMEs?", *Journal of Risk and Financial Management*, Vol. 15 No. 6, pp. 1-15.
- Nicotra, M., Romano, M., Del Giudice, M. and Schillaci, C.E. (2018), "The causal relation between entrepreneurial ecosystem and productive entrepreneurship: a measurement framework", *The Journal of Technology Transfer*, Vol. 43 No. 3, pp. 640-673, doi: [10.1007/s10961-017-9628-2](https://doi.org/10.1007/s10961-017-9628-2).
- Nkontwana, P. and Stam, E. (2023), "Entrepreneurial ecosystems for the Africa we want", USE Working Papers Series, Vol. 23 No. 5, pp. 1-28.
- Nkusi, A.C., Cunningham, J.A., Nyuur, R. and Pattinson, S. (2020), "The role of the entrepreneurial university in building an entrepreneurial ecosystem in a post-conflict economy: an exploratory study of Rwanda", *Thunderbird International Business Review*, Vol. 62 No. 5, pp. 549-563, doi: [10.1002/tie.22165](https://doi.org/10.1002/tie.22165).
- Nzitatira, H.N., Billing, T. and Edgerton, J.F. (2024), "How radio affects violent conflict: new evidence from Rwanda", *American Sociological Review*, Vol. 89 No. 5, pp. 876-906, doi: [10.1177/00031224241278905](https://doi.org/10.1177/00031224241278905).
- Ogochukwu, C.A. and Kasztelnik, K. (2021), "The small and medium scale business owner's lived management experience on small business financing strategies in the development country with

- the deep machine learning analysis techniques”, *Journal of Leadership and Management*, Vol. 18, pp. 48-60.
- O’Shea, G., Farny, S. and Hakala, H. (2021), “The buzz before business: a design science study of a sustainable entrepreneurial ecosystem”, *Small Business Economics*, Vol. 56 No. 3, pp. 1097-1120, doi: [10.1007/s11187-019-00256-4](https://doi.org/10.1007/s11187-019-00256-4).
- Pennebaker, J.W. (2011), “The secret life of pronouns”, *New Scientist*, Vol. 211 No. 2828, pp. 42-45, doi: [10.1016/s0262-4079\(11\)62167-2](https://doi.org/10.1016/s0262-4079(11)62167-2).
- Peters, J., Schoofs, A. and Sievert, M. (2016), “Preferences over bank and family loans in rural Rwanda”, *Journal of International Development*, Vol. 28 No. 4, pp. 623-630, doi: [10.1002/jid.3217](https://doi.org/10.1002/jid.3217).
- Rabe-Hesketh, S. and Skrondal, A. (2006), “Multilevel modelling of complex survey data”, *Journal of the Royal Statistical Society Series A: Statistics in Society*, Vol. 169 No. 4, pp. 805-827, doi: [10.1111/j.1467-985x.2006.00426.x](https://doi.org/10.1111/j.1467-985x.2006.00426.x).
- Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2004), “Generalized multilevel structural equation modeling”, *Psychometrika*, Vol. 69 No. 2, pp. 167-190, doi: [10.1007/bf02295939](https://doi.org/10.1007/bf02295939).
- Radja, M. and Pakereng, Y.M. (2023), “Bootstrap financing as a capital raising strategy in Ikat weaving enterprises”, *Matrik: Jurnal Manajemen, Strategi Bisnis Dan Kewirausahaan*, Vol. 2853, p. 73, doi: [10.24843/matrik:jmbk.2023.v17.i01.p06](https://doi.org/10.24843/matrik:jmbk.2023.v17.i01.p06).
- Rao, P., Kumar, S. and Verma, S. (2024), “Evolution and trends in entrepreneurial finance: reflections and insights from COVID-19”, *Venture Capital*, Vol. 26 No. 3, pp. 247-282, doi: [10.1080/13691066.2023.2210757](https://doi.org/10.1080/13691066.2023.2210757).
- Rawhouser, H., Sutter, C., Holzaepfel, N., Conger, M. and Newbert, S.L. (2025), “Knowledge-related resourcefulness for growth in weak entrepreneurial ecosystems”, *Entrepreneurship Theory and Practice*, Vol. 49 No. 1, pp. 159-195, doi: [10.1177/10422587241259393](https://doi.org/10.1177/10422587241259393).
- Robb, A.M. and Robinson, D.T. (2014), “The capital structure decisions of new firms”, *The Review of Financial Studies*, Vol. 27 No. 1, pp. 153-179, doi: [10.1093/rfs/hhs072](https://doi.org/10.1093/rfs/hhs072).
- Roundy, P.T. (2016), “Start-up community narratives: the discursive construction of entrepreneurial ecosystems”, *The Journal of Entrepreneurship*, Vol. 25 No. 2, pp. 232-248, doi: [10.1177/0971355716650373](https://doi.org/10.1177/0971355716650373).
- Santos, J.B., Fernandes, A.R., de Oliveira, P.T., Maia, L.M. and Partyka, R.B. (2023), “Increasing entrepreneurial ecosystem-level outcomes through orchestration: a proposed framework”, *Technovation*, Vol. 128, 102873, doi: [10.1016/j.technovation.2023.102873](https://doi.org/10.1016/j.technovation.2023.102873).
- Sarfo, C., Zhang, J.A., O’Kane, P. and O’Kane, C. (2024), “Crowdfunding’s impact on small business performance through exploitative and exploratory search strategies: an entrepreneurial resourcefulness perspective”, *Strategic Change*, Vol. 33 No. 5, pp. 355-369, doi: [10.1002/jsc.2584](https://doi.org/10.1002/jsc.2584).
- Scheidgen, K., Günzel-Jensen, F. and Schmidt, S.L. (2025), “Entrepreneurial resourcefulness throughout crisis”, *Entrepreneurship Theory and Practice*, Vol. 49 No. 2, pp. 502-538, doi: [10.1177/10422587241269067](https://doi.org/10.1177/10422587241269067).
- Sharma, G.D., Kraus, S., Liguori, E., Bamel, U.K. and Chopra, R. (2024), “Entrepreneurial challenges of COVID-19: re-thinking entrepreneurship after the crisis”, *Journal of Small Business Management*, Vol. 62 No. 2, pp. 824-846, doi: [10.1080/00472778.2022.2089676](https://doi.org/10.1080/00472778.2022.2089676).
- Sheriff, M. and Muffatto, M. (2015), “The present state of entrepreneurship ecosystems in selected countries in Africa”, *African Journal of Economic and Management Studies*, Vol. 6 No. 1, pp. 17-54, doi: [10.1108/ajems-10-2012-0064](https://doi.org/10.1108/ajems-10-2012-0064).
- Simba, A., Ojong, N. and Dana, L.P. (2023), “Informal entrepreneurship: a review and prioritization of research opportunities”, *Journal of Developmental Entrepreneurship*, Vol. 28 No. 2, 2350013, doi: [10.1142/s1084946723500139](https://doi.org/10.1142/s1084946723500139).
- Smallbone, D., Deakins, D., Battisti, M. and Kitching, J. (2012), “Small business responses to a major economic downturn: empirical perspectives from New Zealand and the United Kingdom”, *International Small Business Journal*, Vol. 30 No. 7, pp. 754-777, doi: [10.1177/0266242612448077](https://doi.org/10.1177/0266242612448077).

- Spigel, B. (2017), "The relational organization of entrepreneurial ecosystems", *Entrepreneurship Theory and Practice*, Vol. 41 No. 1, pp. 49-72, doi: [10.1111/etap.12167](https://doi.org/10.1111/etap.12167).
- Stam, E. (2015), "Entrepreneurial ecosystems and regional policy: a sympathetic critique", *European Planning Studies*, Vol. 23 No. 9, pp. 1759-1769, doi: [10.1080/09654313.2015.1061484](https://doi.org/10.1080/09654313.2015.1061484).
- Stam, E. and Van de Ven, A. (2021), "Entrepreneurial ecosystem elements", *Small Business Economics*, Vol. 56 No. 2, pp. 809-832, doi: [10.1007/s11187-019-00270-6](https://doi.org/10.1007/s11187-019-00270-6).
- Taylor, S.D. (2022), "Concepts as a working hypothesis", *Philosophical Psychology*, Vol. 35 No. 4, pp. 569-594, doi: [10.1080/09515089.2021.2014439](https://doi.org/10.1080/09515089.2021.2014439).
- Thai, M.T.T., Turkina, E. and Simba, A. (2020), "The impact of national social capital on business creation rates in the formal vs informal sectors", *International Journal of Entrepreneurial Behavior and Research*, Vol. 26 No. 8, pp. 1739-1768, doi: [10.1108/ijebr-02-2020-0071](https://doi.org/10.1108/ijebr-02-2020-0071).
- van Klyton, A., Arrieta-Paredes, M.-P., Kamasa, V.B. and Rutabayiro-Ngoga, S. (2024), "Entrepreneurial financing: how global and regional export intentions affect financial and non-financial choices for small and mid-sized enterprises in low-income countries", *International Journal of Entrepreneurial Behavior and Research*, Vol. 30 No. 6, pp. 1502-1526, doi: [10.1108/ijebr-01-2023-0081](https://doi.org/10.1108/ijebr-01-2023-0081).
- von Cramon-Taubadel, S. and Saldias, R. (2014), "Access to credit and determinants of technical inefficiency of specialized smallholder farmers in Chile", *Chilean Journal of Agricultural Research*, Vol. 74 No. 4, pp. 413-420, doi: [10.4067/s0718-58392014000400006](https://doi.org/10.4067/s0718-58392014000400006).
- Webb, J.W., Khoury, T.A. and Hitt, M.A. (2020), "The influence of formal and informal institutional voids on entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 44 No. 3, pp. 504-526, doi: [10.1177/1042258719830310](https://doi.org/10.1177/1042258719830310).
- Williams, T.A., Li, J.M. and Zhao, E.Y. (2025), "Entrepreneurial resourcefulness: theoretical origins, integrative review, and research agenda", *Journal of Management Studies*, Vol. 62 No. 7, pp. 3220-3258.
- Williams, N. and Vorley, T. (2015), "Institutional asymmetry: how formal and informal institutions affect entrepreneurship in Bulgaria", *International Small Business Journal*, Vol. 33 No. 8, pp. 840-861, doi: [10.1177/0266242614534280](https://doi.org/10.1177/0266242614534280).
- Williams, T.A., Zhao, E.Y., Sonenshein, S., Ucbasaran, D. and George, G. (2021), "Breaking boundaries to creatively generate value: the role of resourcefulness in entrepreneurship", *Journal of Business Venturing*, Vol. 36 No. 5, 106141, doi: [10.1016/j.jbusvent.2021.106141](https://doi.org/10.1016/j.jbusvent.2021.106141).
- Wu, Q.L., Liu, X. and Yuan, E.J. (2021), "Debating the two-child policy on Sina Weibo: a study of social media as symbolic space in China", *Journal of Broadcasting and Electronic Media*, Vol. 65 No. 4, pp. 467-487, doi: [10.1080/08838151.2021.1999957](https://doi.org/10.1080/08838151.2021.1999957).
- Zahra, S.A. (2021), "The resource-based view, resourcefulness, and resource management in startup firms: a proposed research agenda", *Journal of Management*, Vol. 47 No. 7, pp. 1841-1860, doi: [10.1177/01492063211018505](https://doi.org/10.1177/01492063211018505).
- Zambrano, A.F., Giraldo, L.F., Perdomo, M.T., Hernández, I.D. and Godoy, J.M. (2023), "Rotating savings and credit associations: a scoping review", *World Development Sustainability*, Vol. 3, 100081, doi: [10.1016/j.wds.2023.100081](https://doi.org/10.1016/j.wds.2023.100081).
- Zbucea, A. and Mocanu, R. (2013), "Adding value to customers and developing brands through electronic newsletters", *Economia. Management Series*, Vol. 16 No. 2, available at: <https://srn.com/abstract=2450647> (accessed 6 October 2025).
- Zhang, Q., Dong, M., Luo, J. and Segerstedt, A. (2014), "Supply chain coordination with trade credit and quantity discount incorporating default risk", *International Journal of Production Economics*, Vol. 153, pp. 352-360, doi: [10.1016/j.ijpe.2014.03.019](https://doi.org/10.1016/j.ijpe.2014.03.019).
- Zhang, J.A., O'Kane, C. and Griffin, D. (2025), "What drives micro-entrepreneurs' value-oriented innovative behavior in microfinance: an entrepreneurial resourcefulness perspective", *Small Business Economics*, Vol. 11 No. 3, pp. 1-30, doi: [10.1007/s11187-025-01081-8](https://doi.org/10.1007/s11187-025-01081-8).

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