

From Skills to Start-ups: An Integrative Review of Skill Education, Enterprise Development and Microfinance in Developing Economies, with Evidence from India

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Abstract: *Developing economies face a persistent paradox: large numbers of young people are being trained through expanding skill-education systems, yet self-employment and enterprise creation remain low and informal. This paper argues that skill education and microfinance, which are usually studied and delivered separately, are complementary halves of a single pathway to enterprise development, and that neither is sufficient on its own. Adopting an integrative review approach, it synthesises the literature on enterprise and skill education, entrepreneurial human capital, and microfinance, and reads it through the human-capital and capability perspectives. Three findings emerge. First, skill and enterprise education builds the competencies, self-efficacy and intention that precede venture creation, but its effect on actual start-up activity is modest and conditional. Second, a binding capital constraint helps explain this gap: trained individuals in low-income settings frequently lack the start-up finance to convert competence into a functioning enterprise. Third, microfinance, and in India, the Self-Help Group–bank linkage and mission-mode credit schemes, can relax this constraint, but their developmental returns are themselves stronger when borrowers possess entrepreneurial skills. On this basis, the paper proposes an integrated Skill–Enterprise–Finance framework, illustrated with Indian evidence, in which skill education and microfinance act as sequential and mutually reinforcing enablers of inclusive enterprise development, conditioned by competency frameworks, mentoring and the wider institutional ecosystem. Implications for policy, practice and future research are discussed.*

Keywords: Skill Education; Enterprise Development; Microfinance; Entrepreneurial Human Capital; Financial Inclusion; Self-Help Groups; India; Inclusive Growth.

Introduction

Across the developing world, the expansion of education and vocational training has not translated automatically into productive employment. Many low- and middle-income economies combine a youthful population, a large informal sector and a chronic shortage of wage jobs, so that self-employment and micro-enterprise are not a residual choice but the principal route to a livelihood for a substantial share of the workforce. Governments have responded with ambitious skilling agendas intended to raise employability and to seed entrepreneurship; India's Skill India mission, its National Skills Qualifications Framework and its network of community colleges are prominent examples (Ministry of Skill Development and Entrepreneurship, 2024). Yet the conversion of training into actual enterprises remains weak, and a recurring observation in the literature is that programmes raise intentions and confidence more reliably than they raise rates of business formation (Nabi et al., 2017; Bae et al., 2014).

Two bodies of policy and scholarship address this problem from different directions but rarely meet. The first concerns skill and enterprise education: what entrepreneurial competencies are, how they can be taught, and whether such teaching changes behaviour (Gibb, 2002; Hytti & O'Gorman, 2004; Penaluna et al., 2012). The second concerns microfinance: how extending small-scale savings and credit to people excluded from formal banking affects enterprise, income, and empowerment (Banerjee et al., 2015; Pandhare et al., 2024). Each field has matured largely in isolation. Skill-education research tends to treat finance as exogenous, while microfinance research tends to treat the borrower's entrepreneurial capability as given. The space between them, where a trained but capital-constrained individual either does or does not become an entrepreneur, is precisely where enterprise development in developing economies is won or lost.

This paper sets out to bridge that space. Its purpose is to synthesise the evidence on skills education, enterprise development, and microfinance, and to articulate how they fit together into a single developmental pathway. It pursues three questions. How does skill and enterprise education contribute to enterprise development, and where are its limits? How does microfinance condition the translation of skills into functioning enterprises? And how can the two be combined into a coherent framework that is meaningful for policy and practice in developing economies, with India as the leading illustration? The contribution is threefold: the paper integrates two largely separate literatures; it foregrounds the capital constraint as the mechanism that links them; and it offers an explicit, testable framework, the Skill–Enterprise–Finance (SEF) framework, together with a set of propositions and an agenda for future research.

Conceptual Foundations

2.1 Skill education and enterprise education

Skill education is used here in a broad sense to denote the deliberate development of work-relevant competencies through technical and vocational education and training (TVET), enterprise education and shorter skilling interventions. Enterprise education, in particular, has been defined less by its content than by its purpose: equipping learners with a broad set of enterprising capabilities that enable them to recognise and exploit opportunity under

uncertainty (Penaluna et al., 2012; Gibb, 2002). Hytti and O'Gorman (2004), analysing programmes across four European countries, distinguished three objectives that remain useful today: learning to understand enterprise, learning to become enterprising, and learning to become an entrepreneur. These objectives are progressively more demanding, and the slippage between them is central to this paper's argument, because a programme may succeed at the first two while leaving the third untouched.

Theoretically, skill education can be understood through human capital theory, in which investment in knowledge and skills raises an individual's productivity and earning capacity (Becker, 1993). Entrepreneurship education, on this view, accumulates a specific form of human capital, namely the competencies, knowledge and self-efficacy relevant to venturing (Martin et al., 2013). A complementary reading comes from the capability approach, in which the purpose of development is to expand the real freedoms, or capabilities, that people have to lead lives they value (Sen, 1999). Skilling matters not only because it raises productivity but because it enlarges agency, and enterprise can be one expression of that enlarged agency. The two lenses are compatible: human-capital theory explains the productivity channel, while the capability approach situates skilling within a wider account of empowerment and freedom that is especially apposite for marginalised groups.

2.2 Enterprise development

Enterprise development refers to the processes by which individuals start, formalise and grow productive economic activities, ranging from own-account self-employment through to micro, small and medium enterprises (MSMEs). In developing economies, the MSME sector is the principal employer outside agriculture and a central instrument of inclusive growth, but it is dominated by informal, low-productivity units that struggle to grow. Enterprise development is therefore not merely about the birth of firms but about their survival, formalisation and graduation. This distinction matters for the present argument because skills and finance may influence these stages differently: training may help an enterprise to start, while finance may be decisive for whether it survives and grows.

2.3 Microfinance and financial inclusion

Microfinance refers to the provision of small-scale financial services, including credit, savings, insurance, and payments, to households and micro-entrepreneurs who are excluded from the formal banking system (Yunus, 2007). Its developmental promise rests on relaxing the capital constraint that prevents poor but capable individuals from investing in productive activity. The empirical record is more nuanced than early enthusiasm suggested: rigorous evaluations find that access to microcredit expands business activity and gives households greater freedom in how they earn and consume, but that transformative average effects on income and poverty are modest (Banerjee et al., 2015). The field has since broadened from a narrow credit instrument towards a multidimensional development tool that integrates financial inclusion with social and, increasingly, environmental objectives (Girález-Puig et al., 2025). In the Indian context, microfinance is delivered primarily through Self-Help Groups (SHGs) linked to banks, a model that combines savings discipline, peer accountability, and access to credit and has become a vehicle for women's economic participation (Pandhare et al., 2024; Khan et al., 2023).

Approach

This study is an integrative review rather than a systematic or meta-analytic one. The integrative approach is appropriate when the aim is to synthesise evidence from diverse and methodologically heterogeneous literatures in order to generate a new conceptual structure, rather than to estimate a pooled effect (Nazir & Das, 2025, illustrate the contrasting systematic logic). Literature was drawn from three streams: enterprise and skill education; entrepreneurial human capital and entrepreneurial intention; and microfinance and financial inclusion, with particular attention to studies situated in India and other developing economies and to recent contributions that reflect current policy. Sources were read thematically and organised around the causal chain that connects skilling to enterprise outcomes. The synthesis that follows is therefore interpretive: its purpose is to make explicit a set of relationships that are implicit and dispersed across the separate fields, and to express them as a framework and propositions that subsequent empirical work can test.

Synthesis of The Evidence

4.1 Skill and enterprise education build entrepreneurial human capital

There is broad agreement that education designed around enterprise raises the antecedents of venturing. Meta-analytic evidence indicates a positive association between entrepreneurship education and entrepreneurial intentions, attitudes and perceived behavioural control (Bae et al., 2014), and a parallel synthesis links such education to the formation of entrepreneurial human capital assets, which in turn relate to venturing outcomes (Martin et al., 2013). Recent work continues to map the specific competencies involved, from opportunity recognition and resource mobilisation to the capacity to act under uncertainty, and stresses that a varied skill set, rather than any single trait, underpins entrepreneurial success (Nazir & Das, 2025). Competency frameworks and, more recently, micro-credentials have emerged as instruments for making these capabilities explicit, assessable and portable across the labour market (Draycott & Rae, 2011; Evans-Uzosike et al., 2025).

Two qualifications temper this optimism. First, the effect of formal classroom provision is uneven, and a good deal of entrepreneurial learning occurs outside the curriculum, through extracurricular and experiential activity whose voluntary character shapes how and why students engage (Fauchald, 2025). Second, enterprise education is highly diversified in content and style and is frequently delivered by educators with limited start-up experience and limited reliance on the research base, which constrains its effectiveness (Penaluna et al., 2012; Hytti, 2002). The implication is that skilling builds capability, but the quality, mode and context of delivery strongly condition how much capability is built.

4.2 The skills–enterprise gap

The more important finding for this paper is that intentions and competencies do not reliably convert into enterprises. The systematic review evidence is consistent: entrepreneurship education shifts attitudes and intentions more reliably than it affects rates of actual business formation, and the link from education to nascent and established entrepreneurship is comparatively weak and contingent (Nabi et al., 2017). Educators themselves report low levels

of start-up activity among graduates during, or within a year of, their studies (Penaluna et al., 2012). This intention–action gap is the empirical heart of the developing-economy paradox described in the introduction: training systems can expand the pool of willing and able would-be entrepreneurs without expanding the stock of operating enterprises.

Several mechanisms are proposed to account for this gap, including weak ecosystems, risk, and the absence of mentoring and networks. In low-income settings, however, one mechanism is especially salient: the lack of start-up capital. A trained individual who cannot access even modest finance to acquire tools, stock or premises cannot act on intention, however strong the underlying competence. These points directly point to the role of finance as the missing complement to skills.

4.3 Microfinance as the enabling bridge

Microfinance addresses precisely this binding constraint by extending small amounts of capital, along with savings and insurance, to those whom the formal sector will not serve. Rigorous evidence shows that access to microcredit increases business creation and investment and broadens households' economic choices, even though average gains in profit and consumption are moderate (Banerjee et al., 2015). The Indian evidence on Self-Help Groups is more sanguine about social and psychological outcomes: studies report that participation in SHG-based microfinance, combined with entrepreneurial engagement, produces positive and meaningful gains in women's economic, social and psychological empowerment (Pandhare et al., 2024; Khan et al., 2023). Microfinance, in short, can convert latent entrepreneurial capability into an active enterprise where a capital constraint would otherwise block it.

Crucially, the relationship runs in both directions. Just as finance raises the returns to skills, skills raise the returns to finance. Credit advanced to a borrower who lacks the competence to deploy it productively is more likely to fund consumption smoothing or distressed coping than enterprise growth, which is one reason average microfinance effects are modest. The developmental payoff is therefore largest where the two are combined: capable borrowers with capital, and capitalised enterprises run by skilled operators. This complementarity is the central claim of the framework developed below.

4.4 The Indian policy configuration

India offers an unusually complete illustration because it has scaled both halves of the pathway. On the skills side, the Skill India mission, the National Skills Qualifications Framework and the community-college model have built a large national apparatus for vocational and enterprise training, explicitly oriented towards employability and self-employment (Ministry of Skill Development and Entrepreneurship, 2024). On the finance side, the SHG–bank linkage programme and mission-mode credit schemes have extended small-scale finance and seed capital to tens of millions of households, with women's groups at the centre (Pandhare et al., 2024). The two systems, however, are administered largely in parallel, through different ministries, intermediaries and metrics. The argument of this paper is that their developmental impact would be greater if they were deliberately sequenced and linked, so that skilling cohorts graduate into financial linkage and microfinance clients are routed into competency-building support.

4.5 Enablers and constraints

The skills–finance pathway operates within an enabling environment that can amplify or stifle it. Competency frameworks and micro-credentialing make skills visible and credible to employers and lenders alike, lowering information barriers (Evans-Uzosike et al., 2025; Draycott & Rae, 2011). Mentoring, incubation, and networks provide the tacit knowledge and social capital that formal training omits and are repeatedly identified as conditions for converting intention into action (Nabi et al., 2017; Fauchald, 2025). Digital infrastructure and financial literacy increasingly mediate access to both markets and finance. Conversely, weak ecosystems, fragmented delivery, gender norms and the precariousness of informal enterprise are persistent constraints, particularly for women and rural populations (Khan et al., 2023). These factors are best understood not as the core of the pathway but as moderators that govern the extent to which skill education and microfinance translate into enterprise.

4.6 Digital and gender dimensions

Two cross-cutting dimensions increasingly shape the pathway and deserve explicit attention. The first is digitalisation. Digital platforms now mediate access to training through online and blended skilling, to markets through e-commerce and aggregation, and to finance through digital payments and credit; they lower transaction costs along the whole chain but also introduce a digital divide that can exclude the very populations the pathway is meant to serve. The second is gender. The developing-economy evidence is clear that women face additional constraints, including restrictive norms, time poverty and weaker access to collateral and networks, yet it also shows that women's collective microfinance, when paired with entrepreneurial engagement, produces some of the largest gains in empowerment (Pandhare et al., 2024; Khan et al., 2023). A framework that ignores these dimensions risks describing an average pathway that few women actually travel; the SEF framework, therefore, treats both digital access and gender as part of the enabling environment that moderates every link.

An Integrated Skill–Enterprise–Finance Framework

Drawing the strands together, Figure 1 presents the Skill–Enterprise–Finance (SEF) framework. At its core is a sequence: skill and enterprise education build entrepreneurial human capital, which supports enterprise development, which in turn yields inclusive outcomes such as livelihoods, income and empowerment. Microfinance serves as a financial bridge beneath the chain, easing the capital constraint at the point where competence must be converted into an operating enterprise. An enabling environment of policy, competency frameworks, mentoring and digital infrastructure surrounds the whole, moderating the strength of each link. A feedback loop captures the demonstration effects through which successful enterprises create role models and reinvest in their communities, raising the demand for, and returns to, further skilling.

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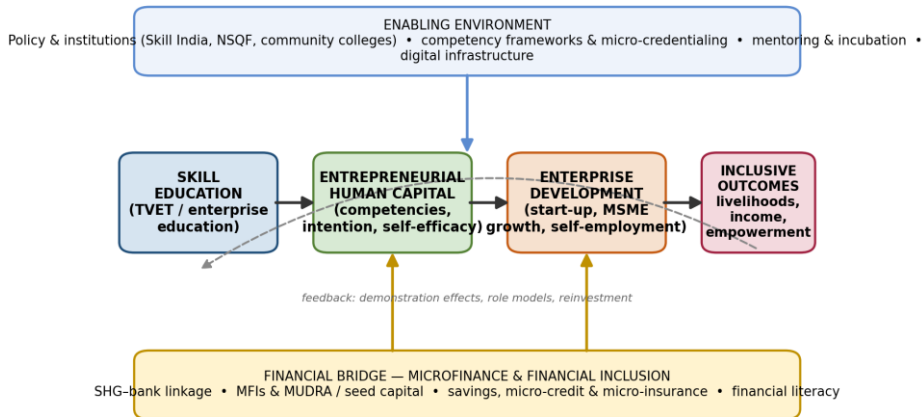


Figure 1. The Skill–Enterprise–Finance (SEF) framework for inclusive enterprise development.

The framework yields four propositions that make its logic testable:

Proposition 1. Skill and enterprise education raises entrepreneurial human capital (competencies, self-efficacy and intention), but its effect on enterprise creation is partial and conditional on access to finance.

Proposition 2. Access to microfinance increases the rate at which entrepreneurial human capital is converted into operating enterprises, by relaxing the start-up capital constraint.

Proposition 3. The developmental returns to microfinance increase the borrower's entrepreneurial human capital; skills and finance are complements rather than substitutes.

Proposition 4. The strength of all three relationships is moderated by the enabling environment, including competency frameworks, mentoring, gender context and digital and institutional infrastructure.

Table 1. Complementary roles of skill education and microfinance in the SEF framework.

Dimension	Skill education	Microfinance	Integrated (SEF) approach
Primary constraint addressed	Capability deficit (skills, intention, self-efficacy)	Capital constraint (lack of start-up finance)	Both, in sequence as the binding constraint shifts
Main output	Entrepreneurial human capital	Access to credit, savings and insurance	Operating, survivable enterprises
Key limitation when used alone	Weak conversion of intention into start-ups	Modest average returns; risk of unproductive use	Requires coordination across systems

Dimension	Skill education	Microfinance	Integrated (SEF) approach
Illustrative Indian instrument	Skill India, NSQF, community colleges	SHG–bank linkage, seed-capital / mission-mode credit	Linked skilling-to-finance pathways with shared metrics
Supporting evidence	Bae et al. (2014); Nabi et al. (2017)	Banerjee et al. (2015); Pandhare et al. (2024)	This paper (synthesis)

The framework reframes a familiar debate. Much policy discussion asks whether skilling or microfinance is the more effective lever for enterprise development. The SEF framework answers that the question is mis-posed: the two are sequential and complementary stages of one pathway, and the binding constraint shifts from capability to capital as an individual moves from training towards venturing. Policies that fund only one stage will tend to disappoint, not because either instrument is ineffective, but because the unaddressed stage becomes the bottleneck.

Implications

6.1 For policy

The principal policy implication is integration. Skilling missions and financial-inclusion programmes should be deliberately linked so that training cohorts graduate into savings and credit linkage, and microfinance clients are offered competency-building and mentoring rather than credit alone. In the Indian context, this means connecting community-college and Skill India provision with the SHG–bank linkage and seed-capital schemes through shared targeting, referral and outcome metrics, so that the two ministries' efforts compound rather than run parallel (Ministry of Skill Development and Entrepreneurship, 2024; Pandhare et al., 2024). Competency frameworks and micro-credentials can serve as the connective tissue, providing lenders with a credible signal of borrower capability and providing trainers with feedback from enterprise outcomes (Evans-Uzosike et al., 2025).

6.2 For practice

For training institutions, the evidence argues for enterprise education that is experiential and embedded in real venturing, supported by mentoring and incubation, rather than classroom instruction alone (Fauchald, 2025; Penaluna et al., 2012). For microfinance providers, it argues for bundling credit with capability-building, recognising that the returns to lending increase with borrowers' skills. For both, women's groups deserve particular attention, since the Indian evidence indicates that the combination of microfinance and entrepreneurial engagement is especially consequential for women's empowerment (Khan et al., 2023; Pandhare et al., 2024).

6.3 For theory

Theoretically, the framework connects human-capital and capability accounts of skilling with the financial-constraint logic of microfinance, treating capability and capital as complementary inputs to enterprise rather than as competing explanations. This integration offers a more

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complete account of the intention–action gap than either literature alone provides, and it shifts the gap from a deficiency of motivation to a structural mismatch between where capability is built and where capital is available.

Limitations and Future Research

As an integrative review, this study synthesises existing evidence rather than generating new data, and the framework it proposes is conceptual and awaits empirical test. The evidence base is also uneven: much of the enterprise-education literature originates in high-income settings, while the strongest evidence from developing economies concerns microfinance and women's Self-Help Groups, so the two halves of the pathway are documented using different methods and in different contexts. Future research should test the SEF propositions directly, ideally through longitudinal or experimental designs that follow skilling cohorts into financial linkage and enterprise outcomes, and that estimate the interaction between skills and finance rather than each in isolation. Comparative work across developing economies, and disaggregation by gender, sector and rurality, would establish how far the framework generalises beyond the Indian configuration that motivates it.

Conclusion

Skill education and microfinance are usually treated as separate development instruments, championed by different communities and evaluated against different goals. This paper has argued that they are better understood as complementary stages of a single pathway to enterprise development. Skill and enterprise education build the entrepreneurial capability that precedes venturing, but capability converts into enterprise only when the capital constraint is relaxed; microfinance relaxes that constraint, but its returns are largest when borrowers are skilled. The proposed Skill–Enterprise–Finance framework expresses this complementarity and, illustrated by India's parallel skilling and financial-inclusion systems, points to integration as the practical key to inclusive enterprise development. For developing economies seeking to turn training into livelihoods, the lesson is not to choose between skilling and finance, but to join them.

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