

Factors Affecting Upskilling Small and Medium-Sized Enterprises



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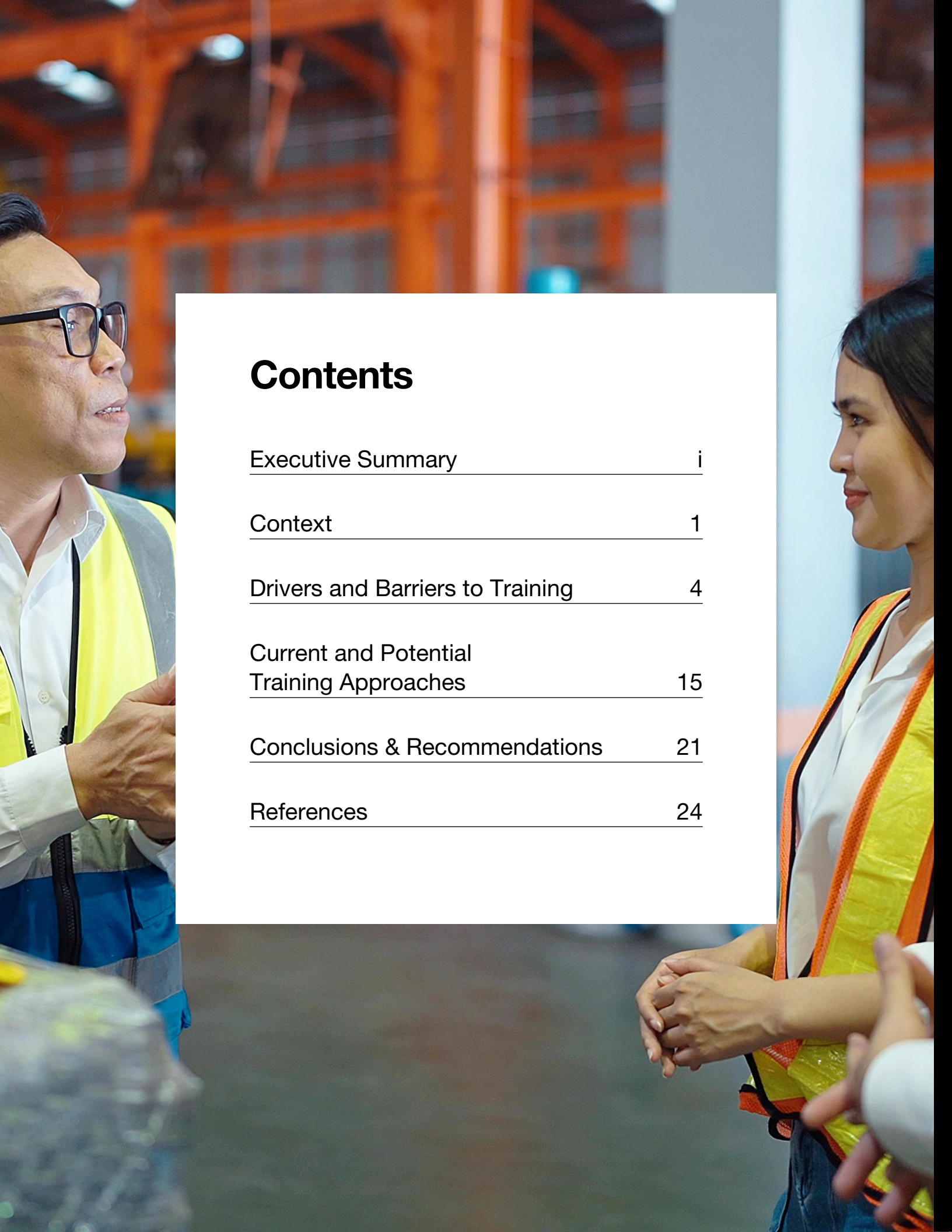
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A man with glasses and a woman, both wearing yellow and orange safety vests over white shirts, are standing in a warehouse. The man is on the left, looking towards the woman on the right. They appear to be in a conversation. The background shows the orange metal structure of a warehouse.

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Executive Summary

Context

Rapid technological change, demographic shifts, and persistent labour shortages are increasing demand for new and evolving skills across the Canadian economy. Small and medium-sized enterprises (SMEs), which account for nearly all employer businesses and a majority of private-sector employment, are central to this challenge. At the same time, SMEs face lower productivity levels than larger firms and continue to experience difficulties



*Market conditions that reward cost competition over productivity **reduce incentives to invest in workforce development**, while credential-based hiring practices substitute for internal training even when skills gaps persist.*

recruiting and retaining skilled workers.

Evidence shows that workforce skills are a key driver of productivity, innovation, and long-term economic resilience. Despite this, training investment remains uneven and often limited, creating a persistent gap between recognized skill needs and actual workforce development. This report examines why this gap persists and what conditions support more effective training investment in SMEs.

Drivers and barriers to training

SME investment in training is shaped by a tension between strong external drivers and persistent internal and structural barriers. While labour shortages, technological change, and productivity pressures are increasing the need for workforce development, many firms struggle to translate this demand into sustained training investment. At the structural level, market conditions that reward cost competition over productivity reduce incentives to invest in workforce development, while credential-based hiring practices substitute for internal training even when skills gaps persist. Employers continue to rely on formal credentials as a proxy for skills

under conditions of uncertainty, reinforcing a preference for hiring over training and contributing to ongoing mismatches between job requirements and workforce capabilities.

Within firms, limited human resource (HR) capacity, time constraints, and lack of formal training systems make it difficult to plan and implement workforce development strategies. Training is often deprioritized in favour of short-term operational needs, particularly when its returns are uncertain or delayed. Workplace norms can further suppress participation, as employees may avoid requesting training in environments where productivity is prioritized over learning. These organizational dynamics are compounded by structural access barriers. Digital infrastructure gaps, uneven digital literacy, and socioeconomic constraints limit participation in training, particularly for workers in smaller firms and those facing multiple forms of disadvantage. Together, these factors reinforce a self-sustaining cycle in which firms recognize skills gaps but underinvest in the systems needed to address them.

Current and potential training approaches

Existing training approaches are often insufficient to overcome these barriers. Passive or supply-driven models, including untargeted subsidies or generic free training, tend to produce uneven uptake and limited behavioural change. Evidence from Canadian and international research shows that training investment is more responsive to approaches that reduce financial risk, align incentives



with outcomes, and support firms in applying training to business needs. Targeted financial mechanisms such as subsidies, vouchers, and performance-linked funding models demonstrate stronger effects, particularly when they reduce upfront costs and uncertainty. Experimental evidence shows that well-designed subsidies can increase training participation and improve firm-level outcomes, including employment and productivity, with the strongest effects observed among smaller firms. However, financial incentives alone are insufficient. Training is most effective when combined with employer support and opportunities to apply new skills in practice.

Program design also plays a critical role. Applied, workplace-integrated, and behaviour-focused training approaches consistently outperform traditional classroom models. Evidence from international studies shows that mentorship, peer learning, and consulting-

based interventions can produce measurable improvements in firm performance, as they are directly linked to business decision-making and organizational change. Intermediary and collective models further improve participation by addressing structural barriers faced by SMEs. Sector councils, chambers of commerce, and training networks help firms navigate training options and reduce administrative burden, though even well-designed programs typically reach only a small proportion of SMEs. Emerging digital platform models aim to reduce fragmentation by centralizing access to training. Early evidence suggests these approaches can improve access and engagement, but outcomes remain largely self-reported and there is limited evidence on long-term impacts or sustained changes in employer behaviour.



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Key findings

- > SME underinvestment in training reflects a system-level coordination failure, driven by interacting structural, organizational, and access-related barriers rather than a single constraint.
- > Market incentives and credential-based hiring practices reduce the perceived need for internal training, reinforcing a preference for hiring over workforce development even when skills gaps persist.
- > Organizational capacity constraints limit the ability of SMEs to plan and implement training, with workforce development often deprioritized due to limited HR infrastructure, time, and information.
- > Workplace norms, digital barriers, and socioeconomic inequalities restrict participation in training, particularly for workers in smaller firms and those facing multiple forms of disadvantage.
- > More effective training approaches combine financial incentives, workplace relevance, advisory support, and opportunities for skill application, while passive or untargeted models produce limited and uneven results.
- > Evidence on long-term impacts remains limited, and even well-designed programs often reach only a small share of SMEs.

Recommendations

- ▶ Align incentives to support training investment. Expand targeted funding mechanisms such as wage subsidies, vouchers, co-funded training, and performance-linked models that reduce financial risk and encourage active employer participation. Strengthen credential recognition and skills validation systems to reduce reliance on formal credentials as a substitute for training.
- ▶ Build SME organizational capacity. Support the development of shared training infrastructure through industry associations, chambers of commerce, and sector councils, including pooled programs, training brokers, and advisory supports. Encourage firms to integrate training into broader organizational systems such as supervision, knowledge sharing, and job design.
- ▶ Improve equitable access to training. Invest in broadband infrastructure and digital literacy to support participation in online learning. Design programs with integrated supports such as language training, child care, and flexible delivery formats to address barriers faced by equity-deserving groups.
- ▶ Strengthen effective training models. Prioritize targeted, demand-driven approaches that combine financial and non-financial supports, including applied and workplace-integrated training. Ensure programs are simple, accessible, and aligned with SME needs, and support intermediaries that help firms navigate training systems.
- ▶ Promote system-level coordination and evaluation. Advance integrated strategies that align policy, industry, and employer actions, and invest in longitudinal evaluation to better understand long-term impacts on training investment, productivity, and firm performance.



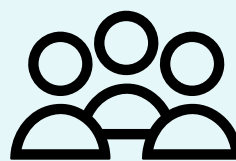
Context

The World Economic Forum estimates that 39% of workers' core skills will need to change within the next five years, driven by advances in artificial intelligence, automation, and digital transformation.¹ Employers increasingly anticipate major shifts in skill demand but struggle to translate that awareness into sustained training investment. However, organizational and institutional responses often lag behind the pace of technological change.^{2, 3} This gap between recognized need and actual investment creates persistent skill mismatches in the labour market, particularly among smaller firms with fewer resources to dedicate to workforce planning.⁴

Small and medium-sized enterprises (SMEs) are central to the Canadian economy, accounting for 99.7% of employer businesses and employing 63.8% of the private-sector workforce, or about 7.8 million people.⁵ This is in stark contrast to other countries like the U.S. where larger businesses dominate and SMEs employ only about 45.9% of private-sector workers.⁶ Large companies tend to dominate discussions about skills and training, while SMEs, which represent the overwhelming majority of businesses and a substantial share of employment, are

often not considered. Their ability to attract, retain, and develop talent has significant implications for economic performance.

Canada's business-sector labour productivity has declined relative to the United States, falling from 83% of U.S. levels in 2002 to 73% in 2019, with differences in firm size distribution and lower productivity among smaller firms accounting for a substantial share of this gap. Their productivity levels



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reached only about 63% of those observed in large firms in 2019.⁷ Smaller firms tend to be less productive because they have less access to scale economies, financing, specialized management capacity, export markets, and innovation systems.⁸ Productivity differences across firms are closely linked to differences in workforce skills, with evidence from the Organisation for Economic Co-operation and Development (OECD) showing that human capital is a key determinant of firm performance and a major contributor to productivity gaps. In this

context, workforce training and upskilling represent a critical mechanism through which SMEs can improve productivity, particularly by supporting technology adoption, innovation, and more efficient use of labour.^{9, 10}

Statistics Canada data show that many businesses continue to report labour shortages and difficulties recruiting and retaining skilled workers across industries, with particularly acute challenges in sectors such as accommodation and food services, manufacturing, and administrative support services.¹¹ Other Canadian evidence similarly finds that a substantial share of firms identify recruiting skilled workers as a barrier to growth and competitiveness.^{12, 13} These labour market pressures occur alongside broader productivity challenges.

In Canada, skills shortages have also been linked to population aging and changing labour market demands, reinforcing concern about whether firms are able to access and develop the capabilities they need for long-term growth. These pressures are visible in SME labour market data: 65% of SMEs identified recruitment and retention as one of the top three factors shaping competitiveness, and 62% had tried to recruit employees in the previous six months. Among those that tried to hire, 82% experienced at least one recruitment challenge, with the leading issue being difficulty finding candidates with adequate qualifications, cited by 60% of respondents. Skills and labour shortages also have direct



business consequences, including limited growth, longer employee hours, delayed orders, reduced competitiveness, and declining quality.¹⁴

The OECD has emphasized that changes in technology, business organization, and global value chains are reshaping skill requirements across economies.¹⁵ OECD projections show that these transitions will change both the number of jobs and the types of skills required: overall employment is expected to grow by about 1.3% between 2019 and 2030, but some roles will decline while others expand, with blue-collar and farm jobs projected to fall by about 3% and other occupations increasing by 4% to 5%. At the same time, the types of skills employers need are shifting, with growing demand for skills related to using computers, analyzing data, thinking creatively, and communicating effectively, as well as practical business skills such as management, sales, accounting, and customer service. These changes are happening because technology is transforming how work is done and because firms must adapt to more complex and fast-changing markets.¹⁶ OECD research also shows that countries benefit more from global trade when workers have the right skills to support modern production processes, with productivity gains ranging from about 0.8%

to 2.2% per year depending on how complex and specialized the industry is. Industries that rely on more advanced production systems, specialized tasks, and coordination across firms tend to see larger productivity gains when workers are better trained and more adaptable.¹⁷ Overall, this evidence shows that upskilling and reskilling are not only needed to fill current job vacancies, but are essential for helping businesses adopt new technologies, respond to changing market conditions, improve productivity, and remain competitive.^{18, 19}

This evidence suggests that upskilling and training are increasingly important for SMEs, not only to respond to immediate hiring pressures but also to support productivity, innovation, and longer-term resilience. However, despite widespread recognition of skills gaps and labour shortages, training investment remains uneven and often limited. This raises a central question for this report: if the need for workforce development is clear, why are more SMEs not investing in training and upskilling? To address this question, this report synthesizes academic and policy literature examining the barriers that constrain SME investment in training and the conditions under which training and workforce development are more effective.

Drivers and Barriers to Training

The preceding section established the main drivers of increasing pressure on SMEs to invest in workforce training, including labour shortages, technological change, productivity pressures, demographic shifts, worker demand for training, and national policy concern over skills and competitiveness. This section builds on that context by organizing these pressures alongside the barriers that prevent many SMEs from responding through

sustained investment in upskilling and reskilling. Figure 1 presents this relationship as a force field model: the left side summarizes the drivers pushing SMEs toward training, while the right side identifies the restraining forces that limit investment. The central issue is therefore not whether training is needed, but why strong demand for skills does not consistently translate into employer investment in workforce development.

FIGURE 1
Driving and restraining forces shaping SME investment in workforce training

Driving Forces	Current State	Advantages
Skills shortages (vacancies hard to fill)		Low-return market incentives
Technological change (AI, digital skills demand)		Credential-based hiring as a substitute for training
Productivity and innovation pressures		Organizational capacity constraints in SMEs
Worker demand for training		Unequal access and participation constraints
National policy pressure (skills agenda, productivity crisis)		Strategic substitution (training replaced by alternatives)

These drivers operate at both macroeconomic and firm levels. Rapid technological change, including the adoption of digital tools and artificial intelligence, is reshaping skill requirements across industries, while population aging and demographic change are tightening labour supply. At the same time, productivity pressures, including Canada's widening gap with the United States and lower output among SMEs, are increasing the importance of more effective use of human capital.

These structural pressures translate into persistent labour market challenges at the firm level. SMEs employ nearly 70% of workers in Canada, making their ability to attract, retain and develop talent central to overall economic performance. However, many firms face ongoing recruitment constraints: about 40% of SMEs identify skills shortages as a major competitive challenge, while more than 80% of those attempting to hire report



difficulties, most commonly due to a lack of qualified candidates. These challenges are not temporary: 76% of small businesses report experiencing hiring difficulties over a five-year period, indicating that skills gaps are a sustained feature of the labour market rather than a short-term disruption.²⁰

In addition to employer-side pressures, there is growing demand for skills development among workers and across the wider skills ecosystem. Survey evidence indicates that many workers participate in or seek training for career advancement or because employers require it, while interest in emerging skill areas such as digital technologies and artificial intelligence continues to grow. At the same time, persistent mismatches between workers' competencies and job requirements suggest that recruitment alone cannot resolve the skills challenge. Together, these dynamics create strong incentives for SMEs to consider workforce training as a way to address capability gaps. Despite these drivers, SMEs consistently underinvest in workforce training. The remainder of this section examines the restraining forces that limit their ability and willingness to respond.



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Organizational constraints in small and medium-sized enterprises

Limited HR capacity and short-term decision-making

SMEs frequently lack the organizational infrastructure required to support systematic workforce development.²¹ Many operate without formal human resource (HR) departments, structured training plans, or dedicated learning budgets. Research across multiple national contexts identifies these capacity gaps as a primary barrier to training investment in smaller firms.²² Without formal HR systems, SMEs struggle to assess skills gaps, evaluate returns on training, or develop strategic workforce plans. As a result, workforce development often remains reactive rather than integrated into long-term organizational planning.^{23, 24}

National survey evidence from Canada reinforces these findings. A survey of 1,700 Canadian SMEs found that 28% experienced difficulty filling job vacancies, with the most common causes being candidates lacking required skills (34%), too few applicants (32%), and insufficient experience (26%). Despite recognizing these skill gaps, many SMEs rely on informal hiring practices and lack the structured HR systems needed to address them systematically. Employers identified growing demand for digital, technical, and interpersonal skills, yet fewer than half reported providing formal internal training to develop these competencies.²⁵

When confronted with labour shortages, SMEs often adopt short-term coping strategies rather than investing in formal training systems. A study of over 1,200 Canadian entrepreneurs found that more than half (55%) reported significant difficulty recruiting qualified workers, with common responses including raising wages, extending work hours, and introducing automation.²⁶ Research from the C.D. Howe Institute confirms that SMEs experience greater hiring difficulties than large firms due to limited recruitment capacity, smaller talent networks, and lower ability to compete on compensation.²⁷ In addition, when firms compete primarily on low costs rather than productivity and innovation, incentives to develop the workforce remain limited. This creates a self-reinforcing cycle: low



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investment in skills leads to low productivity, which in turn reduces the perceived returns to training.²⁸ These short-term responses may address immediate operational pressures but can reinforce longer-term skill shortages by diverting resources away from structured training investment.

Underlying these patterns, small business owners operate under conditions of limited information, time pressure, and cognitive constraints, leading them to prioritize investments with immediate and tangible returns.²⁹ Investments in workforce training may be deprioritized when their outcomes are uncertain or difficult to predict. Research

on entrepreneurial decision-making suggests that uncertainty regarding the consequences of an action can reduce willingness to invest, particularly when firms are unable to anticipate clear returns.³⁰

Language proficiency constitutes an additional structural barrier affecting labour market integration and access to skill development opportunities. Evidence from Canadian immigration data shows that higher proficiency across multiple language dimensions—reading, writing, listening, and speaking—significantly improves earnings outcomes for immigrants.³¹ Because language ability shapes access to higher-quality jobs and professional mobility, limited language proficiency can constrain immigrants' ability to participate fully in workplace training and upskilling initiatives.^{32, 33} For SMEs employing newcomers, language barriers compound existing capacity constraints by limiting the effectiveness of on-the-job training and reducing the returns to employer-sponsored skill development.³⁴

Organizational systems and capability development

Training effectiveness depends not only on participation rates but on the organizational systems that support the application of new skills. Research on sustainability competencies in SMEs demonstrates that training programs are most effective when supported by leadership commitment, strategic alignment, and employee autonomy.³⁵ A transdisciplinary study of SME sustainability training found that employees





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developed stronger action competencies when training was embedded within supportive organizational structures, including mentoring relationships and opportunities to apply learning directly to workplace challenges.³⁶ These findings highlight the importance of organizational context in determining whether training investments translate into meaningful capability development.

HR practices such as training and development, internal communication, information sharing, and job design are directly associated with higher levels of innovation within SMEs.³⁷ Training strengthens employees' skills and creative capacity, while communication and knowledge sharing facilitate the diffusion of ideas and problem-solving across teams. Survey evidence from SMEs confirms that these practices operate as complementary

systems: when training, communication, and supportive job structures function together, they reinforce employees' ability, motivation, and opportunity to contribute innovative ideas.³⁸ Firms that integrate learning into broader workplace practices, including participatory job design and expansive learning environments, achieve stronger outcomes than those that treat training as an isolated activity.³⁹

Workplace norms and participation barriers

Organizational culture and informality

Organizational norms within SMEs can suppress employee participation in training. Research based on employee interviews in small engineering firms finds that workers often avoid requesting training opportunities due to perceived resource constraints and expectations that such requests will be denied. Productivity and project delivery can sometimes take clear precedence over professional development, leading employees to self-censor requests for learning opportunities even when they recognize skill gaps.⁴⁰ This form of normative suppression operates below formal policy: training may be nominally available, but workplace signals discourage employees from pursuing it.

Research on training practices in SMEs consistently finds that employer-sponsored learning is often informal, ad hoc, and poorly integrated into organizational planning. Owner-managers frequently prioritize short-

term operational concerns over structured workforce development.⁴¹ Limited budgets, fear of employee turnover, and the absence of formal training processes further constrain investment in employee training. In many SMEs, owner-managers view training as a cost rather than an investment, particularly when they perceive a risk that trained employees will leave for competitors offering higher wages.⁴²

These informal norms create a self-reinforcing dynamic. When employees internalize signals that productivity should take precedence over professional development, participation in formal training remains limited even when learning opportunities are available. Over time, this can erode the organizational culture of learning itself, making it increasingly difficult for firms to build the internal capabilities needed to adapt to changing skill demands. Breaking this cycle requires deliberate leadership commitment to workforce development and organizational structures that signal the value of continuous learning.⁴³

Informal learning in small and medium-sized enterprises

SMEs often rely heavily on informal learning mechanisms—peer learning, mentoring, and on-the-job training—rather than structured training programs. Survey evidence from the Canadian Federation of Independent Business shows that 91% of SMEs provide informal training, with half of small businesses spending at least 40 hours per year training a single new employee with no prior work experience.⁴⁴ This training occurs alongside

the demands of daily operations, reflecting the operational structure of SMEs and their limited capacity to participate in formal training systems. While informal learning can support skill development, it often lacks formal recognition and may not provide transferable credentials that support labour mobility.⁴⁵

Training opportunities are unevenly distributed across firm size. Canadian data show that employees in larger organizations are substantially more likely to receive employer-sponsored training than those working in SMEs. These disparities reflect differences in organizational capacity, HR infrastructure, and training budgets, rather than differences in employer motivation.⁴⁶



Workers in SMEs consequently rely more heavily on informal or self-directed learning opportunities, which may be less systematic and less likely to develop the advanced competencies required by evolving labour market demands.⁴⁷

Despite these structural constraints, a significant share of the Canadian workforce does participate in some form of work-related training. The Environics Institute's Survey on Employment and Skills finds that 56% of workers participated in work-related training in the previous 12 months. Much of this training is employer-driven: the most common reason for participation was that it was required by an employer (42%), followed by motivations such as enjoyment of learning and desire for career advancement. However, the survey also reveals that training quality and relevance vary significantly, and that many workers—particularly those in lower-wage or precarious positions—report unmet training needs.⁴⁸

About half of SMEs in Canada (49%) report providing internal training for job-specific skills development, but only about one in three (34%) say they provide support for training opportunities outside the workplace. Many SME owners report that internal or on-the-job training is sufficient for their needs, which may limit exposure to external knowledge, emerging technologies, and cross-sector best practices.⁴⁹ This reliance on internal, informal mechanisms can constrain the breadth of skill development and reduce the long-term adaptability of the workforce.

Digitalization and access barriers

As training delivery increasingly shifts toward online platforms, digital infrastructure becomes a critical enabling condition for workforce development.^{50, 51} SMEs often face digital readiness challenges, including limited technological infrastructure and lower levels of digital literacy among employees.^{52, 53, 54} Research on e-learning adoption in SMEs finds that attitudes toward technology and learning vary significantly across firms, with many owner-managers expressing skepticism about the effectiveness of digital training formats.⁵⁵ These attitudes, combined with limited investment in digital tools, can create structural barriers to participation in technology-mediated learning.

Digital access barriers can therefore limit participation in training. Workers lacking reliable broadband access, appropriate devices, or foundational digital skills may face structural exclusion from upskilling opportunities as learning delivery models move online.⁵⁶ For SMEs operating in rural or underserved communities, these barriers are compounded by infrastructure gaps that limit connectivity and access to digital resources.⁵⁷ As training delivery increasingly shifts online, digital access and digital literacy become critical conditions for participation. Without reliable connectivity, appropriate devices, and the skills to use online learning tools, workers and firms may be excluded from the very upskilling opportunities designed to help them adapt, reinforcing existing inequalities in access to training.⁵⁸



These barriers are particularly significant in the context of technological transformation. Research on artificial intelligence adoption highlights a substantial gap between demand for AI-related upskilling and access to training opportunities. While a majority of Canadian workers report interest in employer-provided AI training, only a small minority have received formal instruction.⁵⁹ This indicates structural barriers to skill development rather than a lack of motivation to learn. The gap between workers' desire for training and actual access is especially pronounced among equity-deserving groups, suggesting that digitalization may amplify rather than reduce existing inequalities in training participation.

Socioeconomic and structural barriers

Access to training is unevenly distributed across the workforce. Financial precarity, caregiving responsibilities, language barriers, and discrimination can all limit participation in training programs, particularly for equity-deserving groups.⁶⁰ Research synthesizing evidence on training and employment barriers in Canada identifies a layered set of obstacles operating at individual, organizational, and systemic levels. These barriers interact and compound, meaning that workers facing multiple forms of disadvantage experience disproportionately lower access to learning opportunities.^{61, 62, 63}

Evidence from the OECD Survey of Adult Skills confirms that adult learning participation strongly correlates with prior educational attainment and occupational status. Higher-skilled workers are significantly more likely to receive employer-sponsored training than lower-skilled workers, creating a reinforcing cycle in which those who already have the most skills continue to accumulate advantage.⁶⁴ National labour market data from Statistics Canada show that about 29.7% of Canadian workers participated in non-formal job-related training in the previous 12 months, with participation strongly associated with education level, occupation, and sector. Workers with higher educational attainment and those in professional occupations access training at significantly higher rates, while public-sector employees participate at much higher rates than private-sector workers.⁶⁵

Labour market barriers faced by immigrants further compound these inequalities. Credential non-recognition and occupational downgrading can reduce incentives for continued investment in training when labour market returns remain uncertain.⁶⁶ Research on the deskilling experiences of skilled racialized immigrants in British Columbia documents how foreign-trained professionals systematically encounter barriers including non-recognition of credentials, discriminatory hiring practices, and occupational downgrading.⁶⁷ These barriers not only waste existing human capital but discourage further investment in skill development by reducing the expected returns to training.



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Language proficiency intersects with these barriers to create additional layers of exclusion. Evidence shows that higher proficiency across multiple language dimensions significantly improves earnings outcomes for immigrants, meaning that limited language proficiency constrains not only direct employment prospects but also access to the workplace training and networking opportunities that support career advancement.⁶⁸ For SMEs employing diverse workforces, these compounding barriers require integrated strategies that address language, credentials, and workplace inclusion simultaneously, rather than treating each as an isolated challenge.

Credential stratification and hiring practices

Hiring practices can reinforce structural barriers to training investment. Even when employers publicly commit to skills-based hiring, research shows that removing degree requirements from job postings often produces only modest changes in actual recruitment. An analysis of more than 11,000 roles where firms dropped bachelor's degree requirements found that the share of hires without degrees increased by only 3.5% on average. Employers continue to rely on educational credentials as heuristic signals under uncertainty, particularly when evaluating candidates for roles that demand complex or hard-to-assess competencies.⁶⁹ This persistence reflects deep institutional inertia within labour markets.

Broader evidence confirms that skills-based hiring remains more aspiration than practice. A multi-state analysis of employer behaviour found limited evidence that policy efforts to reduce degree requirements translate into consistent shifts in how firms actually select workers.⁷⁰ When employers default to credential-based screening, they reduce incentives to invest in internal training and skill development.⁷¹ Workers without formal qualifications face a compounded disadvantage: they are less likely to be hired into roles that offer structured learning opportunities, and firms are less likely to build the internal training systems that could substitute for formal credentials.⁷²

National survey data from Canadian SMEs underscores this pattern, showing that employers identify skills gaps as a leading barrier to filling vacancies, yet continue to rely heavily on educational credentials and prior experience rather than investing in workforce development to close those gaps.⁷³ In essence, firms say they use skills-based hiring, but because skills are hard to assess, they continue to rely on credentials as a safer shortcut. This leads them to prioritize hiring over training, even though new hires still lack key skills, reinforcing the cycle of skills gaps and underinvestment in workforce development.



Strategic substitution: Recruitment, automation, and labour supply

Firms frequently frame skill shortages as labour supply problems rather than internal capability challenges. This framing leads organizations to prioritize external recruitment, immigration, or automation over long-term investment in workforce development. When employers perceive that hiring is easier or more cost-effective than training, they have limited incentive to build internal learning systems. Evidence from Canadian policy research confirms that SMEs experiencing labour shortages are more likely to adopt short-term strategies—raising wages, increasing automation, or recruiting internationally—than to invest in formal training programs.⁷⁴

A significant number of Canadian SMEs may not be under pressure to invest in innovation or skill development. Survey data suggest that many firms report a lack of incentive to invest in new technologies, either because investment is not considered necessary for continued operations or because firms are not convinced of the economic benefit of advanced technologies.⁷⁵ This finding highlights that when competitive pressure does not demand higher skills, employers rationally choose to maintain existing approaches rather than invest in workforce transformation.

At the same time, national research agendas emphasize that improving Canada's productivity and long-term economic

resilience will require sustained investment in workforce skills rather than reliance on recruitment alone.⁷⁶ Analysis of adult skills data underscores persistent mismatches between workers' competencies and job requirements, uneven distribution of training opportunities, and the need for more coordinated approaches to skill development across employers, educational institutions, and government. Strategic substitution—replacing training with recruitment or automation—may address immediate skill gaps but does not build the long-term adaptive capacity that firms need to respond to technological change and evolving labour market demands.⁷⁷

SME investment in workforce training is constrained by a set of interrelated structural, organizational, and access-related barriers that operate simultaneously rather than in isolation. Market conditions that prioritize cost competition over productivity reduce incentives to invest in skills, while credential-based hiring practices substitute for internal training even when skill gaps persist. Within firms, limited HR capacity, time pressures, and uncertainty around returns make workforce development difficult to plan and sustain. These challenges are reinforced by workplace norms that deprioritize learning, uneven access to training across workers, and growing digital and socioeconomic barriers that limit participation. Together, these factors create a self-reinforcing system in which firms recognize the need for skills but underinvest in developing them.



Current and Potential Training Approaches

Emerging research

Despite the evidence outlined above on both the drivers of and barriers to SME investment in training, there remains a limited but growing body of research on what types of training approaches lead to sustained employer engagement, and under what conditions these approaches are effective. Existing evidence suggests that while many programs aim to reduce financial barriers or expand access to training, uptake remains uneven and often limited in scale. At the same time, emerging evaluations point to a consistent set of design principles that improve participation and outcomes. These include reducing employer risk, aligning training with business needs, embedding training within workplace processes, and combining financial incentives with advisory and intermediary support.^{78, 79} This section reviews these principles and examines selected program models to assess what is known (and not yet known) about effective approaches to increasing SME investment in workforce training.

Evidence-based design principles: OECD and international evidence

OECD and international research identify several recurring features of effective SME training interventions. First, financial incentives must reduce both direct and indirect costs of training, including time away from work and administrative burden. Subsidies, vouchers, and co-funding arrangements are widely used, but evidence suggests that their effectiveness depends heavily on program design rather than funding alone. Second, certainty and simplicity of funding mechanisms are critical. Programs with predictable reimbursement structures and low administrative complexity show higher participation rates. Conversely, complex application processes and uncertain returns discourage uptake, particularly among smaller firms with limited internal capacity.⁸⁰ Third, combining financial and non-financial supports (e.g., advisory services, skills diagnostics, and coaching) consistently improves outcomes. These supports help firms identify training needs and integrate learning into business operations, addressing



a key barrier: not just whether to invest in training, but how to do so effectively. Fourth, alignment with business needs and workplace application is essential. Training is most effective when it is directly tied to firm-level challenges and includes opportunities to apply skills in practice. Generic or poorly targeted training programs tend to show weaker engagement and limited impact. Finally, intermediary and network-based approaches—including sector councils, chambers of commerce, and training networks—can improve participation by reducing information barriers and enabling economies of scale. However, even well-designed programs often reach only a small proportion of SMEs, highlighting persistent challenges in scaling participation.⁸¹

Program evidence: Pay-for-performance models

One of the most well-documented approaches to addressing SME training barriers is the pay-for-performance (PFP) model, which directly targets employer risk. Rather than requiring upfront investment with uncertain returns, PFP links reimbursement to demonstrated outcomes such as skill acquisition or workplace improvements. Evidence from a Canadian PFP initiative in the manufacturing sector shows strong performance on both uptake and outcomes. The program achieved a 96% training completion rate, with 87% of participants demonstrating measurable skill gains, and 96% of employers meeting post-training support requirements. Employers received an average reimbursement covering about 65% of training costs, significantly reducing financial risk. Qualitative findings reinforce these results. Employers reported improved workflow efficiency, reduced errors, and increased employee confidence and retention. Importantly, the model also appeared to shift employer perceptions of training, from a cost centre to a strategic investment, by making outcomes visible and measurable.⁸² However, the evidence base remains limited in scale. The evaluation draws on a relatively small sample of firms and participants, and challenges remain in quantifying long-term return on investment. While promising, PFP models require further testing across sectors and contexts to assess scalability and sustainability.

Program evidence: Subsidies, vouchers, and training networks

More traditional approaches (e.g., subsidies, vouchers, and training networks) are widely used across OECD countries. Evidence from international programs shows that these models can support SME engagement, but their reach and impact vary significantly. For example, large-scale programs reviewed by the International Labour Organization demonstrate relatively modest penetration rates. In the United States, the Manufacturing Extension Partnership reached about 25,500 SMEs annually, representing a small share of the total SME population. Similarly, Ireland's Skillnets program engaged around 14,300 companies, while Singapore's voucher-based system reached about 19,500 SMEs.⁸³ These figures highlight a key limitation: even well-funded and well-designed programs typically engage only 2–10% of SMEs per year. This suggests that structural barriers like limited time, competing priorities, and low perceived need continue to constrain participation. At the same time, these programs demonstrate several strengths. Voucher systems provide flexibility and preserve employer choice, while training networks enable cost-sharing and peer learning. Programs that combine funding with advisory services and sector-specific support tend to show higher engagement and better alignment with business needs.⁸⁴

More recent causal evidence strengthens these findings by demonstrating that well-targeted subsidy models can produce

measurable firm-level outcomes. A large-scale evaluation of Flemish SMEs found that firms receiving training subsidies experienced increases over four years in employment by 3.55%, value added by 5.68%, labour costs by 3.60%, average wages by 1.95%, and labour productivity by 2.12%, with effects concentrated among smaller firms. These findings suggest that subsidies can be effective where they address binding financial constraints rather than supporting training that would have occurred regardless. Importantly, the same study shows that subsidies can change firm behaviour, not just outcomes. Among very small firms, training expenditures increased by 217% and training hours by 55% in the year of treatment, while the number of trained employees rose by 50% and skilled employees by 29% within three years. Larger firms showed little comparable effect, indicating that impact depends on targeting firms where training is constrained.⁸⁵



*Programs that **combine funding with advisory services and sector-specific support** tend to show **higher engagement and better alignment** with business needs.*

Emerging models: Digital platforms and Skills Bridge

More recent approaches seek to address fragmentation in the training ecosystem through digital platforms and integrated service models. The Skills Bridge initiative in Canada, for example, was designed as a centralized platform integrating a learning management system with broader labour market tools to reduce search costs and provide SMEs with curated, needs-based training pathways. By simplifying access and consolidating content, this model directly targets a key barrier identified by SMEs: difficulty navigating fragmented training systems. Early evaluation findings suggest that this approach can improve both access and engagement. The platform engaged 861 SMEs, with 385 firms actively participating in training and 691 individual learners registering. Among participants,

88% reported no major barriers to accessing training, while 77% rated course quality as high, 83% achieved their learning objectives, and 89% reported intentions to apply new skills in their work. These findings indicate that centralized and curated delivery models can support participation and short-term skill application when training is aligned with SME needs.⁸⁶ However, important limitations remain. Participation represents only a small share of the broader SME population, and engagement was uneven across firms, reflecting persistent constraints related to time, capacity, and competing priorities. In addition, outcomes are largely self-reported, and the evaluation was designed to assess feasibility and generate insights rather than measure long-term impacts. As a result, there is insufficient evidence to determine whether digital platform models lead to sustained increases in training investment or measurable business outcomes.



Emerging evidence on training design and delivery

Beyond funding mechanisms, a growing body of research highlights that the design of training itself plays a critical role in determining outcomes. Evidence synthesized across multiple SME interventions suggests that traditional classroom-based training produces modest effects, while more applied and personalized approaches yield stronger results. Experimental studies provide more concrete estimates. A randomized trial in Colombia found that group-based training and consulting increased firm sales, profits, and labour productivity, and led to a 12% increase in employment relative to individual consulting approaches. In Kenya, mentorship-based interventions increased weekly profits



*Evidence synthesized across multiple SME interventions suggests that **traditional classroom-based training produces modest effects, while more applied and personalized approaches yield stronger results.***

among women microentrepreneurs by 20%, while traditional classroom training showed no statistically significant effect. Similarly, in Togo, personal initiative training increased firm profits by 30%, compared to 11% under conventional training models.⁸⁷ The takeaway is that training is more effective when it is embedded in business decision-making, emphasizes behavioural change, and provides opportunities for peer learning or mentorship, rather than relying on generic content delivery alone.

Program evidence: Management training and business capability programs

Evidence from management training programs in high-income countries presents a more mixed picture, particularly in the short term. Evaluation of the UK's Help to Grow: Management program, which tracked over 6,800 firms using administrative data, found no statistically significant average effects on turnover, employment, or productivity within the first two years of participation. However, early results do indicate some positive effects on employment. Participating firms experienced a statistically significant employment increase of about 7.8% two years after participation, equivalent to roughly 1.5 additional employees per firm on average. The evaluation also notes that productivity effects from management training typically emerge over a longer time horizon of three to seven years, suggesting that short-term estimates may understate long-term impact.

At the same time, survey-based findings reported larger effects, including increases of around 15% in turnover and employment, but the evaluation cautions that these results should be interpreted carefully because they are based on a partial set of respondents and may not be representative of all participating firms.⁸⁸

Synthesis: What works and what remains uncertain

Based on available research evidence, it is safe to say that no single intervention is sufficient to drive widespread SME investment in training. Instead, the most effective approaches combine several reinforcing elements. These include reducing employer risk through cost-sharing or outcome-based funding, ensuring training is closely aligned with business needs, embedding learning within workplace processes, and providing advisory or intermediary support to guide implementation. When these elements are integrated, training is more likely to be both adopted and applied in practice. Programs that incorporate these features, such as PFP models, targeted subsidies, and applied or work-integrated training approaches, show stronger evidence of impact. This is particularly evident in measures of participation, training uptake, and short-term business outcomes. At the same time, the effectiveness of these interventions varies across firm size. Smaller firms tend to respond more strongly to financial and structural supports, while larger firms

are less sensitive to these mechanisms, suggesting that targeting plays a critical role in program design.⁸⁹ Despite these promising findings, important limitations remain. Even well-designed programs typically reach only a small proportion of SMEs, and participation continues to be shaped by structural constraints such as time pressures, competing operational priorities, and limited internal capacity.⁹⁰ In addition, some widely used approaches, particularly management training programs, and business capability development programs, often show limited measurable effects in the short term. Preliminary econometric evidence finds no statistically significant average effects on turnover, employment, or productivity during the early evaluation period, suggesting that measurable impacts may take time to emerge. For many firms participating in such programs, implementing changes requires sufficient time before business outcomes can be realized, making it difficult to assess effectiveness within typical evaluation timelines.^{91, 92}

Overall, while there is increasing alignment on the core principles that support effective SME training, the evidence base remains uneven. There is still limited robust data on long-term outcomes, including whether these interventions lead to sustained increases in training investment, improvements in productivity, or broader systemic change. This points to a continued need for rigorous, longitudinal evaluation and comparative analysis to determine which models can be scaled effectively and under what conditions.

Conclusions and Recommendations

The evidence reviewed in this report demonstrates that SME underinvestment in upskilling emerges from interacting structural, organizational, behavioural, and equity-based mechanisms, rather than a single explanatory factor. SMEs face strong pressure to invest in workforce development due to labour shortages, technological change, productivity challenges, demographic shifts, and worker demand for training. However, these drivers are counterbalanced by barriers that limit firms' ability, incentive, and capacity to act. As a result, the central issue is not whether training is needed, but why clear demand for skills does not consistently translate into sustained employer investment.

Conclusion: Structural incentives and credential-based hiring practices weaken the business case for training. When firms compete primarily on cost rather than productivity and innovation, the perceived return on workforce development remains limited. At the same time, reliance on formal credentials and prior experience as shortcuts for assessing skills encourages firms to seek already-trained workers rather than build internal capabilities, even when recruitment strategies fail to resolve skills gaps.

Recommendation: Governments should shift incentive structures to make training a more attractive and viable investment for SMEs. This includes targeted subsidies, co-funded training models, vouchers, and performance-linked funding mechanisms that reduce direct costs, opportunity costs, and uncertainty around returns. Credential recognition and skills validation systems should also be strengthened so that employers can better assess worker capabilities and reduce overreliance on formal credentials as screening tools.



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Conclusion: Organizational capacity constraints limit SMEs' ability to implement systematic workforce development. Many SMEs lack formal HR infrastructure, training systems, dedicated learning budgets, and the time or information required to plan effectively. As a result, training often remains informal, reactive, and disconnected from broader business strategy, even when employers recognize the importance of upskilling.

Recommendation: Addressing these constraints requires shared infrastructure and practical implementation support. Industry associations, chambers of commerce, sector councils, and intermediary organizations should expand pooled training models, training brokers, skills diagnostics, and advisory supports that help SMEs identify needs, select appropriate training, and reduce administrative burden. At the firm level, employers should embed training within everyday organizational systems, including supervision, knowledge sharing, job design, and opportunities to apply new skills in practice.

Conclusion: Workplace norms, digital barriers, and socioeconomic inequalities constrain participation in training. Informal organizational cultures can discourage employees from seeking learning opportunities, while digital access barriers and uneven digital literacy limit participation in online training. Access to training is also stratified by education, occupation,

income, immigration status, caregiving responsibilities, language proficiency, and experiences of discrimination, meaning that workers who would benefit most from upskilling are often least likely to receive it.

Recommendation: Targeted and coordinated interventions are needed to improve equitable access to training. Governments and infrastructure providers should continue investing in broadband access, digital literacy, and user-friendly online learning systems. Training programs should also incorporate flexible delivery, language supports, child care or wraparound supports where appropriate, and inclusive design principles to ensure that equity-deserving groups can participate meaningfully.



Conclusion: More effective training approaches combine funding, relevance, support, and workplace application. Evidence suggests that passive or supply-driven models, including untargeted subsidies or generic free training, often produce uneven uptake and limited behavioural change. Stronger evidence exists for models that reduce financial risk, align training with business needs, support firms through intermediaries or advisory services, and help workers apply new skills directly in the workplace. However, impacts vary by firm size, program design, and evaluation timeline.

Recommendation: Policy makers should prioritize targeted, employer-engaged training models that combine financial and non-financial supports. This includes expanding targeted subsidies, vouchers, performance-linked funding, shared digital platforms, and intermediary-led models while ensuring that programs remain simple, accessible, and tailored to SME capacity. Programs should also be evaluated longitudinally to assess whether early gains in participation, skill development, and engagement translate into sustained training investment, productivity improvements, and broader organizational change.

These dynamics reflect a broader coordination failure in the workforce development system. Firms, workers, and policy makers widely recognize the importance of skills development in the context of technological change, labour shortages, and productivity pressures. However, structural disincentives, organizational capacity constraints, fragmented training systems, and unequal access continue to limit sustained and equitable investment. Addressing this challenge requires coordinated action across multiple levels, with approaches that align incentives, build SME capacity, reduce barriers to participation, and generate stronger evidence on what works at scale.

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